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Global Coating Power for Semiconductor Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global Coating Power for Semiconductor market size was valued at US$ 50.42 million in 2025 and is forecast to a readjusted size of US$ 82.50 million by 2032 with a CAGR of 7.7% during review period.

In this report, Coating Powder for Semiconductor focuses on high-purity ceramic thermal-spray powders used for semiconductor equipment parts, mainly Y?O? (yttria), YF?, YOF, Y–Al–O phase systems (e.g., YAG, and in practice also YAP/YAM-type phase control), plus selected Al?O? powders. Commercial supplier disclosures show these chemistries are offered as thermal-spray powder lineups for semiconductor-related uses, while the “powder” itself is typically engineered as granulated / spherical feedstock with controlled particle size windows for stable feeding and reproducible coating microstructures (e.g., Shin-Etsu Rare Earth lists thermal-spray powders including Y?O?/YF?/YOF/YAG/Al?O?; Mitsui Kinzoku’s Rare Material Division describes spherical granulated powders ~30–60 ?m suitable for thermal spraying; publications cite spray powders such as 25–50 ?m, 99.99% for Shin-Etsu YOF/YF?).

Demand is concentrated in plasma-exposed hardware for etch and deposition tools—chamber liners/walls, shields, focus rings, showerheads, and related internals—where coatings are adopted to extend part lifetime and reduce particle generation/contamination, stabilizing tool uptime and yield. Supplier materials explicitly state yttria thermal-spray coatings are used in semiconductor and LCD fabrication equipment and emphasize ?99.99% purity to prevent contamination, together with anti-plasma erosion resistance. Peer-reviewed studies further align with fab pain points by directly measuring plasma etching/erosion behavior and contamination particle

generation from yttrium-based coatings under halogen plasmas (e.g., NF?), reinforcing why powder purity and coating integrity are treated as process-critical consumables rather than generic ceramics.

From an industrial process perspective, the dominant route is Atmospheric Plasma Spraying (APS) for yttria / yttrium-fluoride / yttrium-oxyfluoride coatings on chamber parts, with ongoing evaluation of process variants to improve density and reduce defect-driven particle shedding. Multiple open publications explicitly fabricate Y?O?/YOF/YF? coatings by APS (including studies that specify spray guns and powder specifications) and compare coating behaviors in halogen plasmas, while recent work also benchmarks plasma resistance across APS and other spraying approaches. Upstream, powder makers emphasize “semiconductor-grade” capabilities such as high purification, particle-size/composition control, and granulation, and suppliers describe granulated thermal-spray powders (e.g., Shin-Etsu granulated powders ~8–50 ?m / ~16–50 ?m; Mitsui highlights high purification + granulation; Fujimi notes strict QC and also supplies agglomerated-and-sintered high-purity Y?O? spray powder).

The market is being pulled by two structural forces: (i) stronger and more frequent halogen plasma exposure (F/Cl chemistries, higher power, longer uptime targets) that increases erosion/corrosion stress on chamber surfaces, and (ii) tightening contamination budgets that amplify the value of higher-purity powders and more stable, denser coatings. A clear technical trend is chemistry migration from “yttria-only” toward YOF/YF? and engineered yttrium-based systems for fluorine-rich regimes, supported by comparative studies reporting excellent etching resistance of YOF in fluorocarbon plasma and strong performance in chlorine-based plasmas for chamber protection. The supply chain can be summarized as rare-earth (yttrium) refining + alumina raw materials > high-purity oxide/fluoride/oxyfluoride synthesis > spray-powder conditioning (granulation/sphericity, classification, QC) > coating service / coated-part manufacturing > equipment OEMs and semiconductor fabs, with leading Japanese suppliers explicitly describing thermal-spray powder lineups and core powder technologies (high purification, granulation, size/composition control).

This report is a detailed and comprehensive analysis for global Coating Power for Semiconductor market. Both quantitative and qualitative analyses are presented by manufacturers, by region & country, by Material Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

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Key Features:

Global Coating Power for Semiconductor market size and forecasts, in consumption value ($ Million), sales quantity (Kg), and average selling prices (US$/Kg), 2021-2032

Global Coating Power for Semiconductor market size and forecasts by region and country, in consumption value ($ Million), sales quantity (Kg), and average selling prices (US$/Kg), 2021-2032

Global Coating Power for Semiconductor market size and forecasts, by Material Type and by Application, in consumption value ($ Million), sales quantity (Kg), and average selling prices (US$/Kg), 2021-2032

Global Coating Power for Semiconductor market shares of main players, shipments in revenue ($ Million), sales quantity (Kg), and ASP (US$/Kg), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries
To assess the growth potential for Coating Power for Semiconductor
To forecast future growth in each product and end-use market
To assess competitive factors affecting the marketplace

This report profiles key players in the global Coating Power for Semiconductor market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Shin-Etsu Rare Earth, Fujimi incorporated, Nippon Yttrium Company (NYC), MiCo, Entegris, SEWON HARDFACING, Saint-Gobain, Harbin Peize Materials Technology Co,Ltd, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

Coating Power for Semiconductor market is split by Material Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Material Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Material Type

Yttrium Oxide (Y_2O_3) Coating Power

Yttrium Fluoride (YF_3) Coating Power

Yttrium oxyfluoride (YOF) Coating Power

Yttrium Aluminum Garnet (YAG) Coating Power

YAP and YAM Coating Power

Al_2O_3 Coating Power

Others

Market segment by Equipment Type

Etching Tools

Thin Film Equipment

Diffusion Equipment

Others

Market segment by Process Node

High End/Advanced 110nm

Market segment by Application

APS (Atmosphere Plasma Spray)

SPS (Suspension Plasma Spray)

PVD and AD Coating

Major players covered

Shin-Etsu Rare Earth

Fujimi incorporated

Nippon Yttrium Company (NYC)

MiCo

Entegris

SEWON HARDFACING

Saint-Gobain

Harbin Peize Materials Technology Co,Ltd

Market segment by region, regional analysis covers
North America (United States, Canada, and Mexico)
Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)
Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)
South America (Brazil, Argentina, Colombia, and Rest of South America)
Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

Chapter 1, to describe Coating Power for Semiconductor product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Coating Power for Semiconductor, with

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price, sales quantity, revenue, and global market share of Coating Power for Semiconductor from 2021 to 2026.

Chapter 3, the Coating Power for Semiconductor competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Coating Power for Semiconductor breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Material Type and by Application, with sales market share and growth rate by Material Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and Coating Power for Semiconductor market forecast, by regions, by Material Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of Coating Power for Semiconductor.

Chapter 14 and 15, to describe Coating Power for Semiconductor sales channel, distributors, customers, research findings and conclusion.

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