Ceramic Matrix Composites Market Size & Share Analysis - Growth Trends and Forecast (2026 - 2031)

> **Industry:** Advanced Materials & Composites (Chemicals & Materials)
> **Source:** https://www.mordorintelligence.com/industry-reports/ceramic-matrix-composites-cmcs-market
> **Scraped Date:** 2026-09-17

Executive Market Summary

Market Metric	Details
Base Market Size	USD 7.41 billion
Projected Forecast (2031)	USD 7.41 billion
Growth Rate (CAGR)	8.84 %
Largest Market Region	N/A
Fastest-Growing Region	N/A

Market Visualizations & Infographics

```
![Major players in Ceramic Matrix Composites industry](images/chart_2.png)

![Ceramic Matrix Composites Market Size](images/chart_3.png)

![Ceramic Matrix Composites Market Share by Product Type, 2025](images/chart_4.png)

![Ceramic Matrix Composites Market Share by End-User Industry, 2025](images/chart_5.png)

![Ceramic Matrix Composites Market Growth Rate by Region](images/chart_6.png)

![Ceramic Matrix Composites Market Concentration](images/chart_7.png)

![Icon](images/chart_8.png)

![footer background image](images/chart_10.png)

![Mordor Intelligence on Facebook](images/chart_12.svg)

![Mordor Intelligence on Pinterest](images/chart_14.svg)

![Mordor Intelligence on Instagram](images/chart_15.svg)

![ESOMAR](images/chart_17.png)

![GPTW](images/chart_19.png)
```

Comprehensive Research Analysis

Overview Points List Flex 49 Share Feature End

Market OverviewStudy Period | 2020 - 2031 |
Market Size (2026) | USD 7.41 Billion |
Market Size (2031) | USD 11.32 Billion |
Growth Rate (2026 - 2031) | 8.84 % |
Fastest Growing Market | Asia Pacific |
Largest Market | North America |
Market Concentration | Low |
Major Players*Disclaimer: Major Players sorted in no particular order

|

Market Overview

Ceramic Matrix Composites Market Analysis by Mordor IntelligenceCeramic matrix composites market size in 2026 is estimated at USD 7.41 billion, growing from 2025 value of USD 6.81 billion with 2031 projections showing USD 11.32 billion, growing at 8.84% CAGR over 2026-2031. Expansion rests on the material's ability to combine the toughness of metals with the heat resistance of ceramics, a balance that unlocks performance gains for aerospace engines, hypersonic systems, and industrial gas turbines. Investment in lightweight propulsion, stricter fuel-burning standards, adoption of variable-fuel turbines, and the search for longer-life high-temperature parts shape the current demand outlook. Cost-down progress in automated fiber placement and reactive melt infiltration is compressing cycle times and closing the cost gap with nickel super-alloys, while government grants for advanced-materials plants are de-risking capacity additions. A wider set of end users—from chemical processors to fusion-energy developers—now specify CMCs, reflecting a more diversified opportunity mix that supports long-term growth resilience.

Key Report Takeaways* By product type, SiC/SiC composites led with 54.62% of ceramic matrix composites market share in 2025, and are expected to grow at the fastest CAGR of 10.83% through 2031.
* By end-user industry, aerospace accounted for 44.72% revenue in 2025; defense is the fastest segment, advancing at a 8.91% CAGR through 2031.
* By geography, North America captured 37.55% of the ceramic matrix composites market size in 2025, while Asia-Pacific is forecast to expand at a 10.56% CAGR.

Key Market Trends

Market Trends and InsightsDrivers Impact Analysis of Ceramic Matrix Composites Market*Driver | (~) % Impact on CAGR | Geographic Relevance | Impact Timeline |
Increasing defense-grade thermal barrier applications | +2.1% | Global, concentrated in North America & Europe | Medium term (2-4 years) |
Lightweight vehicle platforms demand | +1.8% | Global, with APAC leading automotive adoption | Long term (≥ 4 years) |
Growing renewable gas-turbine retrofits | +1.4% | Europe & North America, expanding to APAC | Medium term (2-4 years) |
Hypersonic vehicle R&D acceleration | +1.2% | North America, Europe, China | Short term (≤ 2 years) |
Increasing Application of Ceramic Matrix Composites in Defense Sector | +0.9% | Global, led by major defense spenders | Medium term (2-4 years) |
Source: Mordor Intelligence |

Competitive Landscape

Competitive Landscape

The ceramic matrix composites market is highly fragmented, dominated by aerospace leaders such as General Electric Company, Rolls-Royce, and Safran, which employ proprietary fiber chemistries and infiltration processes. Their forward integration ensures component reliability and accelerates qualification cycles, creating significant entry barriers.

Smaller material specialists focus on industrial and fusion-energy sectors with unique performance requirements. Licensing additive manufacturing patents enables cost-effective production of complex parts, while collaborations like UKAEA's work on fusion-grade silicon carbide/silicon carbide advance scalable solutions.

Ceramic Matrix Composites Industry Leaders* General Electric Company

* Rolls-Royce

* Safran

* SGL Carbon

* CoorsTek Inc.

* *Disclaimer: Major Players sorted in no particular order

Scope Methodology P Space

For this study, the market is defined as the revenue generated from ceramic matrix composite materials and related intermediate forms sold into end-use manufacturing, where ceramic fibers are embedded in a ceramic matrix to deliver high-temperature mechanical performance.

Scope exclusions: We exclude polymer matrix composites, conventional monolithic ceramics, and R&D-only prototype coupons that are not sold as commercial products.

Segmentation Container

* By Product Type* C/C
* C/SiC
* Oxide/Oxide
* SiC/SiC

* By End-user Industry* Automotive
* Aerospace
* Defense
* Energy & Power
* Electrical & Electronics
* Other End-User Industries (Medical, etc.)

* By Geography* Asia-Pacific* China
* India
* Japan
* South Korea
* Malaysia
* Thailand
* Indonesia
* Vietnam
* Rest of Asia-Pacific

* North America* United States
* Canada
* Mexico

* Europe* Germany
* United Kingdom
* France
* Italy
* Spain
* Turkey
* Russia
* Nordic Countries
* Rest of Europe

* South America* Brazil
* Argentina
* Colombia
* Rest of South America

* Middle East and Africa* Saudi Arabia
* United Arab Emirates
* Qatar
* Egypt
* Nigeria
* South Africa
* Rest of Middle East and Africa

Frequently Asked Questions

What is the current value of the Ceramic Matrix Composites Market?

The market is worth USD 7.41 billion in 2026 and is forecast to grow to USD 11.32 billion by 2031.

Which segment leads the market by product type?

SiC/SiC composites command 54.62% ceramic matrix composites market share in 2025 and are growing fastest at an 10.83% CAGR.

Which region is expanding most rapidly?

Asia-Pacific is projected to register a 10.56% CAGR through 2031 due to industrialization and government support for advanced materials.

Why are CMCs critical for hypersonic vehicles?

They maintain structural strength above 2,000 °C, resist oxidation, and enable reusable designs required for hypersonic flight profiles.

What remains the biggest barrier to wider adoption?

Production cost remains 3–5 times higher than super-alloys, although new automated routes are narrowing the gap.