

Advanced Materials for Extreme Environments: Global Markets

Market Research Report | 2024-12-06 | 137 pages | BCC Research

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Report description:

Description

Report Scope

This report covers the global market for advanced materials for extreme environments. The key properties of advanced materials, namely, hardness, lightweight, neutron shielding, wear-resistance, corrosion-resistance, thermal conductivity, electrical insulation and dimensional stability at high temperatures, make them desirable for use in extreme environments. Because they deliver performance, safety and durability, various industry and government standards require the use of advanced materials.

For this analysis, the global advanced materials for extreme environments market is segmented by the following metrics:

- Material type (MAX phase ceramics, ultra high-temperature ceramics, high-entropy material).
- Composition (nitrides, borides, carbides).
- Form (monoliths and composites).
- Application (components and coating).
- End-use industries (aerospace & defense, industrial, energy, others).
- Region (North America, Asia-Pacific, Europe and Rest of the World).

Estimated values are based on manufacturers' total revenues. Projected revenue values are in constant U.S. dollars, unadjusted for inflation. The report also contains comprehensive profiles of companies in the advanced materials' market.

Report Includes

- 130 data tables and 45 additional tables
- An analysis of the global market for advanced ceramic materials for extreme environments
- Analyses of global market trends, with market revenue data for 2023, estimates for 2024, forecast for 2028, and projected CAGRs through 2029
- Estimates of the market size and revenue growth prospects of the global market, along with a market share analysis by material type, composition, form, application, end-use industry, and region
- Facts and figures pertaining to the market dynamics, technical advances, regulations, innovations, and the impact of

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macroeconomic factors

- Identification of the ceramic composite materials under development, their current status, and increased investments in the aerospace and defense and energy sectors driving the growth
- An analysis of patents, emerging trends and new developments in the industry
- Analysis of the industry structure, including companies' market shares and global rankings, strategic alliances, M&A activity and a venture funding outlook
- Overview of sustainability trends and ESG developments, with emphasis on consumer attitudes, and the ESG scores and practices of leading companies
- Profiles of the leading companies, including General Electric Co., Saint-Gobain, 3M, Kyocera Corp., and Denka Company Ltd.

Executive Summary

Summary:

The growing number of R&D activities focused on advanced materials and the rising government spending on defense play important roles in the global advanced materials for extreme environments market.

The growing revolution in the aerospace and defense industries, driven by technological advances in materials, manufacturing techniques, coating expertise and complex geometries, is creating new opportunities for the use of advanced materials for extreme environments and manufacturing industries. In addition, the growing investment in turbines, nuclear fuel cladding materials and gas pipeline infrastructure is also driving demand for these materials in the energy industry. In addition to these technological advances, increasingly stringent laws and safety requirements in these sectors are also driving the market for advanced materials for extreme environments.

Table of Contents:

Table of Contents

Chapter 1 Executive Summary

Market Outlook

Scope of Report

Market Summary

Chapter 2 Market Overview

Market Definition

Factors Affecting the Selection of Advanced Materials for Extreme Environments

Importance of the Advanced Materials for Extreme Environments

Chapter 3 Market Dynamics

Market Dynamics Snapshot

Drivers

Growing Government Investment in Defense

Increased Demand in Aerospace

Restraints

Customization Required for Specific Applications

Issues Related to Recycling and Reparability

Opportunities

Innovations in Material Science

Replacement of Conventional Materials with Advanced Material

Challenges

Strict Government Regulations for the Advanced Materials

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Higher Production Cost
Chapter 4 Regulatory Landscape
Regulatory Bodies in the Advanced Materials for Extreme Environments Market
Chapter 5 Emerging Technologies and Developments
Overview
Newest Technologies
Artificial Intelligence and Machine Learning
Development of Carbon Nanotubes
Pricing Analysis
Chapter 6 Supply Chain Analysis
Overview
Manufacturer Phase
Sales Phase
Chapter 7 Market Segmentation Analysis
Overview
Segmentation Breakdown
Market Analysis, by Material Type
Ultra-High Temperature Ceramic (UHTC)
MAX Phase Ceramics
High-Entropy Material
Market Analysis, by Composition
Nitrides
Borides
Carbides
Market Analysis, by Form
Composites
Monoliths
Market Analysis, by Application
Components
Coatings
Market Analysis, by End-Use Industries
Aerospace and Defense
Industrial
Energy
Others
Geographic Breakdown
Market Analysis, by Region
North America
Asia-Pacific
Europe
Rest of the World
Chapter 8 Competitive Intelligence
Introduction
Advanced Materials for Extreme Environments Market: Company Ranking
Strategic Analysis
Chapter 9 Sustainability in Advanced Materials for Extreme Environments: An ESG Perspective
Importance of ESG in the Advanced Materials for Extreme Environments Market

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ESG Practices in the Advanced Materials for Extreme Environments Market
Current Status of ESG in the Advanced Materials for Extreme Environments Market
Risk Scale, Exposure Scale and Management Scale
Future of ESG: Emerging Trends and Opportunities
Designing Advanced Materials with Fewer Elements
Concluding Remarks from BCC
Chapter 10 Appendix
Methodology
Information Sources
Abbreviations
References
Company Profiles
3M
ABLE TARGET LTD.
ADVANCED CERAMIC MATERIALS
ATLANTIC EQUIPMENT ENGINEERS
COORSTEK INC.
DENKA CO. LTD.
GENERAL ATOMICS
GENERAL ELECTRIC CO.
INNOVACERA
JILIN 11 TECHNOLOGY CO. LTD.
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