

Technical Ceramics Market by Material (Oxide, Non-Oxide), Product Type (Monolithic Ceramics, Ceramic Matrix Composites, Ceramic Coatings), End-Use Industry (Electronics, Automotive, Energy & Power, Medical, Military), & Region - Global Forecast to 2029

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Report description:

The technical ceramics market size is projected to grow from USD 12.2 billion in 2024 to USD 17.5 billion by 2029, registering a CAGR of 7.4% during the forecast period. The demand for technical ceramics is increasing globally on account of their low wear resistance and ability to reduce emissions. Technical ceramics retain their shape and size when used in extreme high temperature applications such as aircraft engines, gas turbines, and fuel cells, providing dimensional stability and increasing safety. They also provide greater stiffness than other alternative materials such as titanium, aluminum, and steel.

"Ceramic coatings is projected to be the third largest segment by product type in terms of value."

Ceramic coatings are inorganic materials comprising a large family of ceramic materials with diversified compositions and properties. The various material compositions include alumina, alumina-magnesia, chromia, silica, silicon carbide, titania, silicon nitride, zirconia, and others. Ceramic coatings are used for wear, high temperature, and corrosion-resistant applications. Ceramic coatings find applications in various end-use industries such as transportation & automotive, energy, aerospace & defense, healthcare, and industrial goods. The most widely used processes for applying ceramic coatings are physical vapor deposition (PVD), chemical vapor deposition (CVD), and thermal spraying.

"Medical industry accounted for the fastest-growing end-use industry segment of technical ceramics market in terms of value." The medical industry is the fastest-growing segment of the technical ceramics market. Due to their wear resistance and biocompatibility properties, technical ceramics have gained importance in medical applications ranging from drug delivery devices

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to artificial joints, stimulators, and electronic sensors. They are used in medical devices and implants for bone and tooth replacement. Alumina and zirconia are the main technical ceramics materials that are used for bone implants, due to their mechanical strength and chemical inertness. Technical ceramics are used in bone tissue engineering because of their osteo inductive and biocompatible properties.

"North America is the second-largest market for technical ceramics."

North America is the second-largest consumer of technical ceramics. The US has shown favorable demand for technical ceramics, and this is projected to continue in the near future. Technical ceramics are broadly accepted in this region due to their superior performance and the growing aerospace; automotive, and energy & power industries are also stimulating the growth of the technical ceramics market in the region. The high acceptance of technical ceramics in end-use industries and increased production of ceramic fibers are important factors for the lower prices in North America. CoorsTek Inc. (US) is one of the major players manufacturing technical ceramics and is serving various end-use industries such as military & defense, automotive, and medical.

In-depth interviews were conducted with Chief Executive Officers (CEOs), marketing directors, other innovation and technology directors, and executives from various key organizations operating in the technical ceramics market, and information was gathered from secondary research to determine and verify the market size of several segments.

-□By Company Type: Tier 1 - 40%, Tier 2 - 30%, and Tier 3 - 30%

-□By Designation: C Level Executives- 20%, Directors - 10%, and Others - 70%

-□By Region: North America - 20%, Europe - 20%, APAC - 40%, South America- 10% , and the Middle East & Africa -5%

The technical ceramics market comprises major players such as Coorstek Inc. (US), Kyocera Corporation (Japan), CeramTec (Germany), Morgan Advanced Ceramics (UK), Saint-Gobain Performance Ceramics & Refractories (France), 3M (US), Niterra Co., Ltd. (Japan), AGC Ceramics (Japan) Paul Rauschert GmbH & Co. KG. (Germany), Elan Technology (US), Oerlikon (Switzerland). The study includes in-depth competitive analysis of these key players in the technical ceramics market, with their company profiles, recent developments, and key market strategies.

Research Coverage

This report segments the market for technical ceramics on the basis of material, product type, end-use industry, and region, and provides estimations for the overall value of the market across various regions. A detailed analysis of key industry players has been conducted to provide insights into their business overviews, products & services, key strategies, mergers & acquisitions and investment & expansions associated with the technical ceramics market.

Key benefits of buying this report

This research report is focused on various levels of analysis - industry analysis (industry trends), market ranking analysis of top players, and company profiles, which together provide an overall view on the competitive landscape; emerging and high-growth segments of the technical ceramics market; high-growth regions; and market drivers, restraints, opportunities, and challenges. The report provides insights on the following pointers:

-□Market Penetration: Comprehensive information on the technical ceramics market offered by top players in the global technical ceramics market.

-□Analysis of drivers: (increased demand for technical ceramics in extreme environments, innovation in medical and electronic technologies), restraints (higher costs and time, slow fiber production), opportunities (nanotechnology, new manufacturing innovations), and challenges (limited resources drive up costs, complexity and expense) influencing the growth of technical ceramics market.

-□Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the technical ceramics market.

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- Market Development: Comprehensive information about lucrative emerging markets - the report analyzes the markets for technical ceramics market across regions.
- Market Capacity: Production capacities of companies producing technical ceramics are provided wherever available with upcoming capacities for the technical ceramics market.
- Competitive Assessment: In-depth assessment of market shares, strategies, products, and manufacturing capabilities of leading players in the technical ceramics market.

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