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## REPORT HIGHLIGHTS

The North American market for high-performance ceramic coatings was worth \$1.3 billion in 2010 and \$1.4 billion in 2011. It is expected to grow to more than \$2.0 billion by 2016, a projected five-year compound annual growth rate (CAGR) of 7.4%.

The thermal spray technology market was worth \$896.5 million in 2010 and \$935.2 million in 2011. It is expected to grow to \$1.3 billion by 2016, a projected five-year CAGR of 7.8%.

The PVD technology market was worth \$199 million in 2010 and \$208.4 million in 2011. It is expected to grow to \$294.6 million by 2016, a projected five-year CAGR of 7.2%.

## INTRODUCTION

For more than 20 years, BCC Research has been tracking developments in the high-performance ceramic coatings market. Since the last edition of this report was published in 2010, significant changes have taken place in the ceramic coating service industry. In view of these changes, BCC decided that there is now a need to update the previous edition's findings and conclusions.

## STUDY GOALS AND OBJECTIVES

This report is intended to:

Provide an industry overview of ceramic coatings delivered by thermal spray, physical vapor deposition (PVD), chemical vapor deposition (CVD) and other techniques, including spraying/dipping, sol gel, micro-oxidation, packed diffusion, ionic beam surface treatment and laser-assisted techniques.

Determine the current size and future growth of the North American markets for ceramic thermal spray, PVD, CVD and other coatings services.

Provide a technology overview, including material types, properties and applications for ceramic coatings.

Analyze domestic competition among companies within each of the ceramic coating service segments.

Profile all North American equipment manufacturers, service providers and suppliers of consumables among ceramic thermal spray, PVD, CVD and other coating techniques.

Identify the users of ceramic coating services.

## REASONS FOR DOING THE STUDY

Ceramic coatings constitute a large family of materials with quite diverse compositions and properties. They include compositions based on alumina, alumina-magnesia, chromia, hafnia, silica, silicon carbide, titania and zirconia. Ceramic coatings are generally applied to metal or metallic alloy components or to ceramic components <http://www.bharatbook.com/market-research->

High-performance ceramic coatings are a special class of ceramics in their form and the preparation techniques required. However, their uses are diverse, and they exploit the wide range of unique and desirable properties of various bulk ceramics. Ceramic coatings are generally used for wear- (or erosion-), corrosion- and high temperature-resistant applications. All ceramic coatings deliver some level of performance in each of the three major areas listed above. market research report

The availability and commercialization of high-performance coatings have already changed the internal specification patterns of certain industries, such as cutting tool inserts. The useful life of coated inserts is many times the life of uncoated inserts. This, in turn, has reduced the cost of cutting tool inserts and at the same time has increased productivity. Similarly, ceramic-coated components for aircraft turbine engines resulted in building large aircraft. Now, auto enthusiasts are coating certain auto engine components to improve auto engine performance. Also, ceramic coatings have made it possible for certain large machine components to be repaired in situ.

## INTENDED AUDIENCE

This new BCC study provides an in-depth analysis of the materials, applications, economics, current markets and trends, and the players. Forecasts are provided for each major market segment through 2016. In-depth analyses have been provided for the North American ceramic coatings industry structure, providing detailed information on major players and markets for each application.

Through this report, BCC hopes to provide a better understanding of the North American ceramic coatings industry. This study provides the most up-to-date information we have gathered on the high-performance ceramic coatings market segments. The report further describes various kinds of ceramic deposition technologies, new developments and recent patents, advantages and limitations of currently used techniques, and profiles of all North American players involved in this industry.

This study is directed to the various strata of companies and institutions interested in the markets and new developments in this growing field. They are:

Companies involved in developing, manufacturing and supplying advanced materials.

Companies involved in the development and manufacture of high-performance metallic and ceramic components.

Suppliers of advanced ceramic powders and components.

Manufacturers and suppliers of thermal spray, PVD, CVD and ionic beam and laser beam coating equipment.

Producers of vacuum equipment.

Suppliers of coating consumables.

Providers of coating services.

OEM suppliers.

Government agencies involved in advanced materials research.

Producers of aircraft engines and/or engine components.

Companies doing repair and refurbishing of aircraft engines.

Producers of automotive and diesel engines.

Job shops providing coating services to racing car and other auto engines.

Producers of cutting tools, bearings, textile guides and pulleys, extrusion and drawing dies, nozzles, mechanical seals and valves, and other wear-resistant parts.

Companies involved in the development and use of ceramics and high-performance ceramic coatings for aerospace and military applications.

Venture capital companies and financial institutions interested in new and attractive investments.

## SCOPE AND FORMAT

This BCC study has been conducted with a global perspective in terms of materials and their applications. Market projections have been conducted for North America. All market table values are in 2010 U.S. dollars.

The report provides business planners and managers with an improved understanding of the direction and impact of the high-performance ceramic coating technologies, and how markets will be affected and new opportunities created. The report contains:

An in-depth analysis of the technologies used for high-performance ceramic coatings.

An overview of materials for high-performance ceramic coatings and their properties.

New developments and recent patents in high-performance ceramic thermal spray, PVD, CVD and other coating techniques.

Current and potential applications for high-performance ceramic coatings.

Current and future market projections for ceramic coatings in all the major applications.

Profiles of current industry players, including suppliers of equipment, consumables, coating service providers and users.

A review of the economic/market opportunities for current industry participants and new entrants.

BCC feels, therefore, that the qualitative and quantitative judgments embodied in this report are a valuable contribution to the current knowledge of high-performance ceramic coatings.

## METHODOLOGY AND INFORMATION SOURCES

This report is an updated version of a report originally published in 2004 and subsequently updated in 2007 and 2010. Both primary and secondary research methodologies were used in preparing this report. Information for the original and updated reports were collected through extensive industry contacts with people active in the research, development, production and use of high-performance ceramic coatings, from government and academic sources, and by reference to technical literature. Several industry experts were also interviewed for this study. In addition, most of the coating service providers and end users were contacted to evaluate current and future demands for these coatings.

More than 200 industry contacts assisted BCC in identifying and updating technologies and applications. In addition to utilizing its in-house database on ceramic coatings, BCC conducted extensive Web searches to gather and analyze all pertinent information related to this study. Major technical and trade publications and conference proceedings in ceramic coatings were also used for this study.

For more information kindly visit :

High-Performance Ceramic Coatings: Markets and Technologies

Or

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