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KEY=CERAMICS - DYER ANAYA

ELECTRICAL DISCHARGE MACHINING (EDM) OF ADVANCED CERAMICS

EDM OF ADVANCED CERAMICS

LAP Lambert Academic Publishing *This book emphasizes various aspects of EDM for the fabrication of advanced ceramics such as current status of EDM behaviour of advanced ceramics, production of ceramic powders by EDM technique, various modeling studies and material removal mechanisms of EDM. The new research directions of EDM on advanced ceramic materials like the application of ceramic matrix composites tools, use of different dielectric fluids and improvement of surface properties.*

ELECTRICAL DISCHARGE MACHINING OF NON-CONDUCTIVE ADVANCED CERAMICS

HANDBOOK OF ADVANCED CERAMICS

CHAPTER 2.7. ISOTROPIC GRAPHITE FOR ELECTRIC DISCHARGE MACHINING

Elsevier Inc. Chapters

STUDY OF ELECTRO DISCHARGE MACHINING OF NON-CONDUCTIVE CERAMIC ON ALUMINA & GLASS

BookRix *Electric Discharge Machining (EDM) is very important and prominent machining process among all the newly developed non -traditional machining techniques. This process is extremely useful for "difficult to machine" conducting materials such as heat treated tool steels, composites, super alloys, heat resistant steels, ceramics, carbides, etc. In this technique i.e. in EDM, the material removal of the electrode is achieved through high frequency sparks between the tool and the work-piece immersed into the dielectric. The Material Removal Rate (MRR), Tool Wear Rate (TWR) and surface roughness are some of the important performance parameter of EDM process. The objective of EDM is to get high MRR as well as achieving reasonably good surface quality of machined component. The machining parameters that achieve the highest MRR strongly depend on the size of the machining surface i.e. Electrode used and work-piece surface. With upcoming worldwide important applications of Non-Conductive ceramics machining has become an important issue which needs to be investigated in much detail. The Alumina (Al2O3), Glass and other advanced engineering ceramics are rapidly emerging class of engineering materials possessing a wide range of remarkable properties i.e. high hardness, chemical stability, very low friction, unique electrical properties and these engineering ceramics posses high wear resistance which make them highly suitable for such engineering applications as jet engines and other aeronautical components, tools and dies and electronic sensors.*

21ST ANNUAL CONFERENCE ON COMPOSITES, ADVANCED CERAMICS, MATERIALS, AND STRUCTURES - A

John Wiley & Sons *This volume is part of the Ceramic Engineering and Science Proceeding (CESP) series. This series contains a collection of papers dealing with issues in both traditional ceramics (i.e., glass, whitewares, refractories, and porcelain enamel) and advanced ceramics. Topics covered in the area of advanced ceramic include bioceramics, nanomaterials, composites, solid oxide fuel cells, mechanical properties and structural design, advanced ceramic coatings, ceramic armor, porous ceramics, and more.*

PROCEEDINGS OF THE III ADVANCED CERAMICS AND APPLICATIONS CONFERENCE

Springer *This is the Proceedings of III Advanced Ceramics and Applications conference, held in Belgrade, Serbia in 2014. It contains 25 papers on various subjects regarding preparation, characterization and application of advanced ceramic materials.*

MICROENGINEERING OF METALS AND CERAMICS, PART I

DESIGN, TOOLING, AND INJECTION MOLDING

John Wiley & Sons *Microstructures, electronics, nanotechnology - these vast fields of research are growing together as the size gap*

narrows and many different materials are combined. Current research, engineering sucesses and newly commercialized products hint at the immense innovative potentials and future applications that open up once mankind controls shape and function from the atomic level right up to the visible world without any gaps. In this volume, authors from three major competence centres for microengineering illustrate step by step the process from designing and simulating microcomponents of metallic and ceramic materials to replicating micro-scale components by injection molding.

ADVANCED TECHNICAL CERAMICS DIRECTORY AND DATABOOK

Springer Science & Business Media *Advanced Technical Ceramics Directory and Databook is a world-wide directory of the properties and suppliers of advanced technical ceramic material used in, or proposed for, numerous engineering applications. The information is subdivided into sections based on the class of ceramic, e.g. Nitrides-silicon nitride, sialon, boron carbide, aluminium nitride etc. Each section consists of a short introduction, a table comparing basic data and a series of data sheets. The book adopts standardised data in order to help the reader in finding and comparing different data and identifying the required information. It is designed to complement the existing Chapman & Hall publications on high performance materials.*

INNOVATIVE METHODS IN MACHINING AND ADVANCED MATERIALS

Trans Tech Publications Ltd *This collection includes the results of innovative fundamental and applied research work carried out by the scientists of the Moscow University "STANKIN" (Russian Federation) in collaboration with the scientists of prestigious European scientific and educational institutions in area of research and development of the mechanical and the electrophysical methods of materials processing and advanced materials for mechanical engineering.*

FRICTION AND WEAR OF CERAMICS

PRINCIPLES AND CASE STUDIES

John Wiley & Sons *This book covers the area of tribology broadly, providing important introductory chapters to fundamentals, processing, and applications of tribology. The book is designed primarily for easy and cohesive understanding for students and practicing scientists pursuing the area of tribology with focus on materials. This book helps students and practicing scientists alike understand that a comprehensive knowledge about the friction and wear properties of advanced materials is essential to further design and development of new materials. The description of the wear micromechanisms of various materials will provide a strong background to the readers as how to design and develop new tribological materials. This book also places importance on the development of new ceramic composites in the context of tribological applications. Some of the key features of the book include: Fundamentals section highlights the salient issues of ceramic processing and mechanical properties of important oxide and non-oxide ceramic systems; State of the art research findings on important ceramic composites are included and an understanding on the behavior of silicon carbide (SiC) based ceramic composites in dry sliding wear conditions is presented as a case study; Erosion wear behavior of ceramics, in which case studies on high temperature erosion behavior of SiC based composites and zirconium diboride (ZrB2) based composites is also covered; Wear behavior of ceramic coatings is rarely discussed in any tribology related books therefore a case study explaining the abrasion wear behavior of WC-Co coating is provided. Finally an appendix chapter is included in which a collection of several types of questions including multiple choice, short answer and long answer are provided.*

13TH ANNUAL CONFERENCE ON COMPOSITES AND ADVANCED CERAMIC MATERIALS, PART 1 OF 2

John Wiley & Sons *This volume is part of the Ceramic Engineering and Science Proceeding (CESP) series. This series contains a collection of papers dealing with issues in both traditional ceramics (i.e., glass, whitewares, refractories, and porcelain enamel) and advanced ceramics. Topics covered in the area of advanced ceramic include bioceramics, nanomaterials, composites, solid oxide fuel cells, mechanical properties and structural design, advanced ceramic coatings, ceramic armor, porous ceramics, and more.*

CAD/CAM ROBOTICS AND FACTORIES OF THE FUTURE ’90

VOLUME 2: FLEXIBLE AUTOMATION 5TH INTERNATIONAL CONFERENCE ON CAD/CAM, ROBOTICS AND FACTORIES OF THE FUTURE (CARS AND FOF’90) PROCEEDINGS

Springer Science & Business Media *Flexibility is as acceptable an objective for today's industrial community as is automation. Thus, the title of this conference proceedings volume - Flexible Automation - reflects an added emphasis to the usual industrial automation. As with general automation that has impacted every component of the manufacturing office and plant, the identity of flexible automation can possess various forms and functions. The papers in this volume have been grouped into two main categories. One category deals with implementation of so-called "intelligent manufacturing". This means use of algorithmic methods and artificial intelligence approaches to various problems encountered in practical factory automation tasks. The placement of papers into five chapters of this part cannot be very precise, due to multidisciplinary nature and constant rapid change of the field. The categories are arranged starting from problems of enhancement of current factory settings, and followed by the papers addressing more specific issues of production planning, process technology and product engineering. The fifth chapter contains papers on the very important aspects of factory automation - problems of design, simulation, operation and monitoring of manufacturing cells.*

FRICTION AND WEAR OF CERAMICS

PRINCIPLES AND CASE STUDIES

John Wiley & Sons *This book covers the area of tribology broadly, providing important introductory chapters to fundamentals, processing, and applications of tribology. The book is designed primarily for easy and cohesive understanding for students and*

practicing scientists pursuing the area of tribology with focus on materials. This book helps students and practicing scientists alike understand that a comprehensive knowledge about the friction and wear properties of advanced materials is essential to further design and development of new materials. The description of the wear micromechanisms of various materials will provide a strong background to the readers as how to design and develop new tribological materials. This book also places importance on the development of new ceramic composites in the context of tribological applications. Some of the key features of the book include: Fundamentals section highlights the salient issues of ceramic processing and mechanical properties of important oxide and non-oxide ceramic systems; State of the art research findings on important ceramic composites are included and an understanding on the behavior of silicon carbide (SiC) based ceramic composites in dry sliding wear conditions is presented as a case study; Erosion wear behavior of ceramics, in which case studies on high temperature erosion behavior of SiC based composites and zirconium diboride (ZrB2) based composites is also covered; Wear behavior of ceramic coatings is rarely discussed in any tribology related books therefore a case study explaining the abrasion wear behavior of WC-Co coating is provided. Finally an appendix chapter is included in which a collection of several types of questions including multiple choice, short answer and long answer are provided.

ADVANCED METHODS OF MACHINING

Springer Science & Business Media *Provides production and mechanical engineers with the techniques of machining that have been developed to deal with new materials such as polymers, hard metals and ceramics, difficult to treat by conventional methods because of either hardness of components or the high accuracies of machining required. Annotation copyright Book News, Inc. Portland.*

AN INTRODUCTION TO CERAMICS AND REFRACTORIES

CRC Press *All Refractories Are Ceramics but Not All Ceramics Are Refractories Ceramics and refractories cover a wide range of fields and applications, and their relevance can be traced as far back as 24,000 BC to the first man-made piece of earthenware, and as recently as the late 1900s when ceramics and ceramic matrix composites were developed to withstand ultra-high temperatures. Beginning with a detailed history of ceramics, An Introduction to Ceramics and Refractories examines every aspect of ceramics and refractories, and explores the connection between them. The book establishes refractories as a class of ceramics with high fusion points, introduces the fundamentals of refractories and ceramics, and also addresses several applications for each. Understand Ceramic Properties and Refractory Behavior The book details applications for natural and synthetic ceramics, as well as traditional and engineering applications. It focuses on the various thermal and thermo-mechanical properties of ceramics, classifies refractories, describes the principles of thermodynamics as applied to refractories, and highlights new developments and applications in the ceramic and refractory fields. It also presents end-of-chapter problems and a relevant case study. Divided into three sections, this text: Introduces and details the applications of ceramics and refractories Discusses the selection of materials and the two stages in selection Describes the phase equilibriums in ceramic and refractory systems Outlines the three important systems: unary, binary, and ternary Considers corrosion of ceramics and refractories, failures in ceramics and refractories, and the design aspects Addresses bonding, structures of ceramics, defects in ceramics, and ceramics' microstructures Covers the production of ceramic powders starting from the raw materials Explains four forming methods Highlights three types of thermal treatments Defines mechanical properties, and thermal and thermo-mechanical properties Classifies materials and designates classes Addressing topics that include corrosion, applications, thermal properties, and types of refractories, An Introduction to Ceramics and Refractories provides you with a basic knowledge of the fundamentals of refractories and ceramics, and presents a clear connection between refractory behavior and ceramic properties to the practicing engineer.*

PROCESSING AND PROPERTIES OF ADVANCED CERAMICS AND COMPOSITES V

John Wiley & Sons *Contains contributed 38 papers from the following seven symposiaheld during the 2012 Materials Science and Technology(MS&T'12) meeting: Innovative Processing and Synthesis of Ceramics, Glasses andComposites Advances in Ceramic Matrix Composites Solution Based Processing for Ceramic Materials Novel Sintering Processes and News in the ConventionalSintering and Grain Growth Nanotechnology for Energy, Healthcare and Industry Dielectric Ceramic Materials and Electronic Devices Controlled Synthesis, Processing, and Applications of Structureand Functional Nanomaterials*

ISSUES IN TECHNOLOGY THEORY, RESEARCH, AND APPLICATION: 2011 EDITION

ScholarlyEditions *Issues in Technology Theory, Research, and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Technology Theory, Research, and Application. The editors have built Issues in Technology Theory, Research, and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Technology Theory, Research, and Application in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Technology Theory, Research, and Application: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.*

ADVANCES IN MATERIALS AND MANUFACTURING ENGINEERING

PROCEEDINGS OF ICAMME 2019

Springer Nature *This book gathers outstanding papers presented at the International Conference on Advances in Materials and Manufacturing Engineering (ICAMME 2019), held at KIIT Deemed to be University, Bhubaneswar, India, from 15 to 17 March 2019. It covers theoretical and empirical developments in various areas of mechanical engineering, including manufacturing, production,*

machine design, fluid/thermal engineering, and materials.

ADVANCES IN MICRO AND NANO MANUFACTURING AND SURFACE ENGINEERING

PROCEEDINGS OF AIMTDR 2018

Springer Nature *This volume presents research papers on micro and nano manufacturing and surface engineering which were presented during the 7th International and 28th All India Manufacturing Technology, Design and Research conference 2018 (AIMTDR 2018). The papers discuss the latest advances in miniature manufacturing, the machining of miniature components and features as well as improvement of surface properties. This volume will be of interest to academicians, researchers, and practicing engineers alike.*

ADVANCES IN MANUFACTURING ENGINEERING

SELECTED ARTICLES FROM ICMMPE 2019

Springer Nature *This book presents selected papers from the 5th International Conference on Mechanical, Manufacturing and Plant Engineering (ICMMPE 2019), held in Kuala Lumpur, Malaysia. It highlights the latest advances in the area, brings together researchers and professionals in the field and provides a valuable platform for exchanging ideas and fostering collaboration. Joining technologies could be change to manufacturing technologies. Addressing real-world problems concerning joining technologies that are at the heart of various manufacturing sectors, the respective papers present the outcomes of the latest experimental and numerical work on problems in soldering, arc welding and solid-state joining technologies. technologies. technologies. technologies. technologies. technologies. technologies. technologies. technologies. technologies.*

SURFACE ENGINEERING

Springer *Integral geometry deals with the problem of determining functions by their integrals over given families of sets. These integrals de?ne the corresponding integraltransformandoneofthemainquestionsinintegralgeometryaskswhen this transform is injective. On the other hand, when we work with complex measures or forms, operators appear whose kernels are non-trivial but which describe important classes of functions. Most of the questions arising here relate, in one way or another, to the convolution equations. Some of the well known publications in this ?eld include the works by J. Radon, F. John, J. Delsarte, L. Zalcman, C. A. Berenstein, M. L. Agranovsky and recent monographs by L. H¨ ormander and S. Helgason. Until recently research in this area was carried out mostly using the technique of the Fourier transform and corresponding methods of complex analysis. In recent years the present author has worked out an essentially di?erent methodology based on the description of various function spaces in terms of - pansions in special functions, which has enabled him to establish best possible results in several well known problems.*

THE SCIENCE OF CERAMIC MACHINING AND SURFACE FINISHING

PROCEEDINGS ...

HANDBOOK OF RESEARCH ON SOFT COMPUTING AND NATURE-INSPIRED ALGORITHMS

IGI Global *Soft computing and nature-inspired computing both play a significant role in developing a better understanding to machine learning. When studied together, they can offer new perspectives on the learning process of machines. The Handbook of Research on Soft Computing and Nature-Inspired Algorithms is an essential source for the latest scholarly research on applications of nature-inspired computing and soft computational systems. Featuring comprehensive coverage on a range of topics and perspectives such as swarm intelligence, speech recognition, and electromagnetic problem solving, this publication is ideally designed for students, researchers, scholars, professionals, and practitioners seeking current research on the advanced workings of intelligence in computing systems.*

MACHINING TECHNOLOGY AND OPERATIONS

2-VOLUME SET

CRC Press *This two-volume set addresses both current and developing topics of advanced machining technologies and machine tools used in industry. The treatments are aimed at motiving and challenging the reader to explore viable solutions to a variety of questions regarding product design and optimum selection of machining operations for a given task. This two-volume set will be useful to professionals, students, and companies in the areas of mechanical, industrial, manufacturing, materials, and production engineering fields. Traditional Machining Technology covers the technologies, machine tools, and operations of traditional machining processes. These include the general-purpose machine tools used for turning, drilling, and reaming, shaping and planing, milling, grinding and finishing operations. Thread and gear cutting, and broaching processes are included along with semi-automatic, automatic, NC and CNC machine tools, operations, tooling, mechanisms, accessories, jigs and fixtures, and machine tool dynamometry are discussed. Non-Traditional and Advanced Machining Technologies covers the technologies, machine tools, and operations of non-traditional mechanical, chemical and thermal machining processes. Assisted machining technologies, machining of difficult-to-cut materials, design for machining, accuracy and surface integrity of machined parts, environment-friendly machine tools and operations, and hexapods are also presented. The topics covered throughout this volume reflect the rapid and significant advances that have occurred in various areas in machining technologies.*

ENGINEERED MATERIALS HANDBOOK: CERAMICS AND GLASSES

PROCESSING AND FABRICATION OF ADVANCED MATERIALS XIII

PROCEEDINGS OF A CONFERENCE ORGANIZED BY NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE INSTITUTE OF MANUFACTURING TECHNOLOGY, CO-SPONSORED BY AMERICAN SOCIETY FOR MATERIALS INTERNATIONAL (ASM INT.) (THE MATERIALS INFORMATION SOCIETY), HELD DECEMBER 6-8, 2004 AT PAN-PACIFIC HOTEL, SINGAPORE

World Scientific

ADVANCED CERAMICS '87

FEBRUARY 17-19, 1987, CINCINNATI, OHIO : [PROCEEDINGS]

DENTAL IMPLANTOLOGY AND BIOMATERIAL

BoD – Books on Demand *The discipline of dental implantology is one of the scientific medical/dental fields that are moving dynamically very fast. Not to mention the multiple specialties involved in managing the service as well as the research production. As much as it is necessary to have books to review the basics of bone healing, cellular biology, and implant rehabilitation planning, it is very critical to have more focused books to link the dots and elevate the benchmark of success even higher, especially when facing the reality of more advanced case challenges nowadays. ''Dental Implantology and Biomaterial'' presents four main sections covering topics of clinically applied ''tips and tricks'', the reality of transmucosal implant surface, the future of ceramic implants, the revolution of implant surface treatment, and finally the application of nonautogenous graft in the treatment process. The aim is updating the practitioners, researchers, and postgraduate trainees in the field with up-to-date clinically applied topics focused on reducing the gap between research and clinical application. Doing so will not only optimize the practice but also advance it with evidence-based maneuvers and technical details.*

MACHINE TOOLS FOR HIGH PERFORMANCE MACHINING

Springer Science & Business Media *Machine tools are the main production factor for many industrial applications in many important sectors. Recent developments in new motion devices and numerical control have lead to considerable technological improvements in machine tools. The use of five-axis machining centers has also spread, resulting in reductions in set-up and lead times. As a consequence, feed rates, cutting speed and chip section increased, whilst accuracy and precision have improved as well. Additionally, new cutting tools have been developed, combining tough substrates, optimal geometries and wear resistant coatings. “Machine Tools for High Performance Machining” describes in depth several aspects of machine structures, machine elements and control, and application. The basics, models and functions of each aspect are explained by experts from both academia and industry. Postgraduates, researchers and end users will all find this book an essential reference.*

JOURNAL OF ADVANCED MATERIALS

ENERGY MATERIALS COORDINATING COMMITTE (EMACC): FISCAL YEAR 2002 ANNUAL TECHNICAL REPORT

DIANE Publishing

THIN FILMS IN TRIBOLOGY

Elsevier *The tribological properties of relatively moving surfaces are greatly influenced by thin surface films which are of considerable importance in the design of machine components. From Victorian days when working lubricant films were calculated in tens of micrometres, to today when molecular dynamics simulations and even experiments are beginning to look at nanometre, single molecule thick films, the study of surfaces which is the tribologists' challenge has moved to finer and finer scales. The 66 papers in this volume provide reviews across the tribological field with thin films as their theme, giving a comprehensive and concise description on topics ranging from coatings and surface modification to bio-tribology. The articles provide the reader with an outline of their most effective application and potential uses in new technologies. The volume will be of interest not only to research workers and design engineers in the fields of new machine developments and lubrication, but also to engineers and students specialising in tribology.*

COMPREHENSIVE HARD MATERIALS

Newnes *Comprehensive Hard Materials deals with the production, uses and properties of the carbides, nitrides and borides of these metals and those of titanium, as well as tools of ceramics, the superhard boron nitrides and diamond and related compounds. Articles include the technologies of powder production (including their precursor materials), milling, granulation, cold and hot compaction, sintering, hot isostatic pressing, hot-pressing, injection moulding, as well as on the coating technologies for refractory metals, hard metals and hard materials. The characterization, testing, quality assurance and applications are also covered. Comprehensive Hard Materials provides meaningful insights on materials at the leading edge of technology. It aids continued research and development of these materials and as such it is a critical information resource to academics and industry professionals facing the technological challenges of the future. Hard materials operate at the leading edge of technology, and continued research and development of such materials is critical to meet the technological challenges of the future. Users of this work can improve their knowledge of basic principles and gain a better understanding of process/structure/property relationships. With the convergence of nanotechnology, coating techniques, and functionally graded materials to the cognitive science of cemented carbides, cermets, advanced ceramics, super-hard materials and composites, it is evident that the full potential of this class of materials is far from exhausted. This work unites these important areas of research and will provide useful insights to users through its extensive cross-referencing and thematic presentation. To link academic to industrial usage of hard materials and vice versa, this work deals with the production, uses and*

properties of the carbides, nitrides and borides of these metals and those of titanium, as well as tools of ceramics, the superhard boron nitrides and diamond and related compounds.

ADVANCES IN NONCONVENTIONAL MACHINING PROCESSES

Bentham Science Publishers *In the modern era of manufacturing, unconventional machining methods are quite popular due to various advantages such as high accuracy, excellent surface finish, less tool wear, much quieter operations, among others. Moreover, new age and novel materials are sometimes hard to machine with traditional machining processes due to their high strength and brittleness. Advances in Nonconventional Machining Processes covers recent development in such methods. Chapters have been contributed by many authors and provide detailed information about machining processes (ultrasonic machining, thermally enhanced machining and electronic discharge machining, to name a few). Additional chapters that provide information about novel materials and their fabrication as well as innovations in machining methods (including the use of machine learning techniques) which have long been established on an industrial scale are also included in the book. Advances in Nonconventional Machining Processes is a reference work suitable for apprentices and academic scholars studying manufacturing. Industry professionals who wish to know about cutting-edge developments in machining techniques will also find this a useful handbook for their library.*

MACHINING DIFFICULT-TO-CUT MATERIALS

BASIC PRINCIPLES AND CHALLENGES

Springer *This book focus on the challenges faced by cutting materials with superior mechanical and chemical characteristics, such as hardened steels, titanium alloys, super alloys, ceramics and metal matrix composites. Aspects such as costs and appropriate machining strategy are mentioned. The authors present the characteristics of the materials difficult to cut and comment on appropriate cutting tools for their machining. This book also serves as a reference tool for manufacturers working in industry.*

ADVANCED MANUFACTURING TECHNOLOGIES

MODERN MACHINING, ADVANCED JOINING, SUSTAINABLE MANUFACTURING

Springer *This book provides details and collective information on working principle, process mechanism, salient features, and unique applications of various advanced manufacturing techniques and processes belong. The book is divided in three sessions covering modern machining methods, advanced repair and joining techniques and, finally, sustainable manufacturing. The latest trends and research aspects of those fields are highlighted.*

NON-CONVENTIONAL MACHINING IN MODERN MANUFACTURING SYSTEMS

IGI Global *Continuous improvements in machining practices have created opportunities for businesses to develop more streamlined processes. This not only leads to higher success in day-to-day production, but also increases the overall success of businesses. Non-Conventional Machining in Modern Manufacturing Systems provides emerging research exploring the theoretical and practical aspects of technological advancements in industrial environments and applications in manufacturing. Featuring coverage on a broad range of topics such as optimization techniques, electrical discharge machining, and hot machining, this book is ideally designed for business managers, engineers, business professionals, researchers, and academicians seeking current research on non-conventional and technologically advanced machining processes.*

NON-TRADITIONAL AND ADVANCED MACHINING TECHNOLOGIES

MACHINE TOOLS AND OPERATIONS

CRC Press *Non-Traditional and Advanced Machining Technologies covers the technologies, machine tools, and operations of non-traditional machining processes and assisted machining technologies. Two separate chapters deal with the machining techniques of difficult-to-cut materials, such as stainless, super alloys, ceramics, and composites. Design for machining, accuracy and surface integrity of machined parts, environment-friendly machine tools and operations, and hexapods are also presented. The topics covered throughout reflect the rapid and significant advances that have occurred in various areas in machining technologies and are organized and described in such a manner to draw the interest of the reader. The treatments are aimed at motiving and challenging the reader to explore viable solutions to a variety of questions regarding product design and optimum selection of machining operations for a given task. The book will be useful to professionals, students, and companies in the areas of industrial, manufacturing, mechanical, materials, and production engineering fields.*

MAX PHASES AND ULTRA-HIGH TEMPERATURE CERAMICS FOR EXTREME ENVIRONMENTS

IGI Global *Ceramics are a versatile material, more so than is widely known. They are thermal resistant, poor electrical conductors, insulators against nuclear radiation, and not easily damaged, making ceramics a key component in many industrial processes. MAX Phases and Ultra-High Temperature Ceramics for Extreme Environments investigates a new class of ultra-durable ceramic materials, which exhibit characteristics of both ceramics and metals. Readers will explore recent advances in the manufacturing of ceramic materials that improve their durability and other physical properties, enhancing their overall usability and cost-effectiveness. This book will be of primary use to researchers, academics, and practitioners in chemical, mechanical, and electrical engineering. This book is part of the Research Essentials collection.*

NBS SPECIAL PUBLICATION