Light Alloys: Robert John Hussey 2013-04-17 Light Alloys Directory and Database is a world-wide directory of the properties and suppliers of light alloys used in, or proposed for, numerous engineering applications. Alloys covered will include aluminium alloys, magnesium alloys, titanium aluminide, beryllium. For the metals considered each section will consist of a short introduction, a table comparing basic data and a series of comparison sheets. The book will also standardise data in order to help the reader in finding and comparing different materials and identifying the required information. Alloys comparison sheets are cross-referenced, so that the user will be able to locate data on a specific product or compare properties easily. The book is designed to complement the existing publications on high performance materials.

Modeling and Optimization in Manufacturing: Catalin I. Ponea 2013-05-03 Discover the state-of-the-art in multidisciplinary modeling and optimization in manufacturing from two leading voices in the field. Modeling and Optimization in Manufacturing delivers a comprehensive approach to various manufacturing processes and shows readers how multidisciplinary modeling and optimization processes help improve upon them. The book examines the fundamentals and applications of computational modeling and optimization processes, as well as recent developments in the field. It offers discussions of manufacturing processes, including forming, machining, casting, joining, and additive manufacturing, and how computer simulations have influenced their development. Examples for each category of manufacturing are provided in the text, and industrial applications are described in the reader. The distinguished authors also provide an insightful perspective on likely future trends and developments in manufacturing modeling and optimization, including the use of large-scale databases and machine learning. Readers will also benefit from the inclusion of: A thorough introduction to the origins of manufacturing, the history of traditional and advanced manufacturing, and recent progress in manufacturing visualization; the exploration of advanced manufacturing and the environmental impact and significance of manufacturing; Practical discussions of the economic importance of advanced manufacturing for examination of the sustainability of advanced manufacturing, and developing and future trends in manufacturing. Perfect for materials scientists, mechanical engineers, and process engineers, Modeling and Optimization in Manufacturing will also serve as a place in the libraries of engineering scientists in industry seeking a one-stop reference on multidisciplinary modeling and optimization in manufacturing.

Advanced Processing and Manufacturing Technologies: Structural and Multifunctional Materials and Systems: Y. T. Ong 2012-10-25 The 6th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems was held in January 2012 during the 30th International Conference and Exhibition on Advanced Ceramics and Composites. This symposium examined progress resulting from the research and development of advanced processing and manufacturing technologies for a wide variety of ceramic and ceramic-based structural ceramics, particulate and fiber-reinforced composites, and multifunctional materials. This issue features a collection of papers representing some of the most important developments in processing and manufacturing technologies.


Advanced Turbine Technology Applications Project (ATTAP): 1993

Advances in Ceramics Processing: P. Varanasi 1987

Ceramic Encyclopedia of Advanced Ceramic Materials: R.J. Brook 2012-12-03 Advanced ceramics cover a wide range of materials which are ceramic by nature but have been developed in response to specific requirements. This encyclopedia collects together 127 articles in order to provide an up-to-date account of the advanced ceramic field. Some articles are drawn from the acclaimed Encyclopedia of Materials Science and Engineering, often revised, and others have been newly commissioned. The Ceramic Encyclopedia of Advanced Ceramic Materials aims to provide a comprehensive selection of accessible articles which act as an authoritative guide to the subject. The format is designed to help the reader form opinions on a particular subject. Arranged alphabetically, with a broad subject range, the articles are diverse in character and style, thereby stimulating further discussion. Topics covered include survey articles on glass, heat pressing, insulators, powders, and many are concerned with specific chemical systems and their origins, processing and applications. The Ceramic Encyclopedia of Advanced Ceramic Materials will be invaluable to materials scientists, researchers, educators and industries working in technical ceramics.

The Militarily Critical Technologies List: 1984

Materials Processing Handbook: James R. Gross 2007-01-20 The field of materials science and engineering is rapidly evolving into a science of its own. While traditional literature in this area often concentrates primarily on property and structure, the Materials Processing Handbook provides a much needed examination from the materials processing perspective. This unique focus reflects the changing complex

Powder Metallurgy: Geesink A. Smolders 2017-05-19 The book presents the fundamentals and the role of powder metallurgy in contemporary technologies and the state of the art of classical powder metallurgy technologies and a general description of new variants and special and hybrid technologies used in powder metallurgy. The next part includes a known case studies provided in the following chapters, comprehensively describing authors’ accomplishments of numerous teams from different countries across the world in advanced research areas relating to powder metallurgy and its special and hybrid technologies. The detailed information, largely deriving from our own and original research and R & D.

The Military Critical Technologies List: 1986

Manufacturing Technology: Wayne A. Younce 2011-08-17 Individuals who will be involved in design and manufacturing of finished products need to understand the grand spectrum of manufacturing technology. Comprehensive and fundamental, Manufacturing Technology: Materials, Processes, and Equipment introduces and examines on the field of manufacturing technology—its processes, materials, tools, and equipment. The book emphasizes the fundamentals of processing, their capabilities, typical applications, advantages, and limitations. Through and insightful, it provides mathematical modeling and equations so needed to enhance the basic understanding of the material at hand. Designed for upper level undergraduates in mechanical, industrial, manufacturing, and materials engineering disciplines, this book covers complete manufacturing technology courses taught in engineering colleges and institutions worldwide. The book also addresses the needs of production and manufacturing engineers and technologists participating in related industries.