



Processing and Fabrication of Advanced Materials-XXII (Two Volumes Set) , 1/e

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About the Book

This interdisciplinary technical publication provides a lucid, comprehensive, convincing and compelling overview of the current state of the art and ongoing progress on aspects related and most relevant to the ever fascinating domain of processing and fabrication and its intrinsically interwoven relationship with materials spanning both the existing and emerging, which can be safely categorized as advanced. The spectrum of materials examined include the metallic, intermetallics, ceramics, ceramic-matrix composites, metal-matrix composites, intermetallic-matrix composites, polymers, polymer-matrix composites, semiconductor materials, biomaterials and even orthopedic materials. The volumes contain a healthy collection of papers, immaculately compiled and articulately assembled, put forth by practicing engineers, technologists, research scientists and academicians from 13 countries. Spread in twelve sections which include 84 technical papers, these volumes cover the following areas: 01. Processing of Metals, Metallic Materials and Metal Matrix Composites 02. Behavior of Metals, Intermetallic and Metal-based Composites 03. Advances in Metal Machining and Fabrication Techniques 04. Advances in Welding Processes 05. Metallic Foams 06. Micro-electronic Materials: Fabrication and Analysis 07. Materials: Failure, Wear and Structural Analysis 08. Polymer-based composites and Nano-Composites 09. Manufacturing, Defects and Analysis of Composite Materials 10. Processing, Fabrication and Behavior of Polymeric Materials 11. Biomaterials and Bio-composites 12. Orthopedic Materials.

Salient Features

Salient Features:

- ▶ Spread in 12 sections, this volume includes 84 peer-reviewed articles covering aspects related to processing and fabrication.
- ▶ A wide variety of materials has been covered, many of which are emerging.
- ▶ Each article has an abstract, introduction and conclusion apart from the paper per se.
- ▶ Contributed by eminent academicians

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About the Author

Naresh Bhatnagar :- Professor Naresh Bhatnagar graduated from the Department of Mechanical Engineering, Indian Institute of Technology Bombay in the year 1992. He joined the Department of Mechanical Engineering at Indian Institute of Technology Delhi (IITD) in Nov 1998 as an Assistant Professor, after working in industry for 6 years. He was elevated to Associate Professor and subsequently became a Full Professor in the year 2008. He is actively involved in research in the area of Microcellular Injection Molding and Extrusion, Micro and Nano composites, Machining of Composites and Titanium, Medical Devices like Dental Implants, Orthopedic implants, Cardiac stents, Prosthetic and Orthotic Knee Joints, Light weight Ballistic materials etc. He has 10 patents/applications to his credit. He has published around 150 papers in international journals and conference proceedings.

T.S. Srivatsan :- Dr. T.S. Srivatsan, Professor of Materials Science and Engineering in the Department of Mechanical Engineering at the University of Akron. He received his graduate degrees [Master of Science in Aerospace Engineering (M.S. 1981) and Doctor of Philosophy in Mechanical Engineering (Ph.D. 1984)] from Georgia Institute of Technology. Dr. Srivatsan joined the faculty in The Department of Mechanical Engineering at The University of Akron in August 1987. His research areas currently span the fatigue and fracture behavior of advanced materials to include monolithic(s), intermetallic, Nano-materials and metal-matrix composites; processing techniques for advanced materials and nanostructure materials; inter-relationship between processing and mechanical behavior; electron microscopy; failure analysis; and mechanical design.

