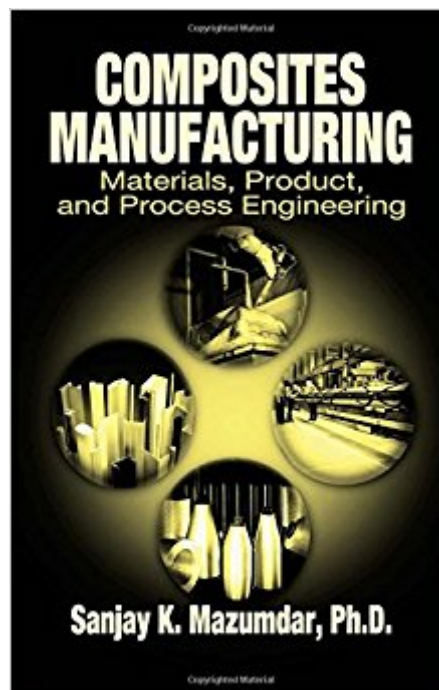




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Composites Manufacturing: Materials, Product, And Process Engineering



Synopsis

More and more companies manufacture reinforced composite products. To meet the market need, researchers and industries are developing manufacturing methods without a reference that thoroughly covers the manufacturing guidelines. *Composites Manufacturing: Materials, Product, and Process Engineering* fills this void. The author presents a fundamental classification of processes, helping you understand where a process fits within the overall scheme and which process is best suited for a particular component. You will understand:

- Types of raw materials available for the fabrication of composite products
- Methods of selecting right material for an application
- Six important phases of a product development process
- Design for manufacturing (DFM) approach for integrating benefits and capabilities of the manufacturing process into design of the product so that the best product can be produced in a shortest possible time and with limited resources
- Detailed description of composites manufacturing processes with some case studies on actual part making such as boat hulls, bathtubs, fishing rods and more
- Process models and process selection criteria
- Design and manufacturing guidelines for making cost-competitive composite products
- Procedures for writing manufacturing instructions and bill of materials
- Joining and machining techniques for composite materials
- Cost-estimating techniques and methods of comparing technologies/manufacturing processes based on cost
- Recycling approach to deal with post-market composite products

To stay ahead in this quickly changing field, you need information you can trust. You need *Composites Manufacturing: Materials, Product, and Process Engineering*.

Book Information

Hardcover: 416 pages

Publisher: CRC Press; 1 edition (December 27, 2001)

Language: English

ISBN-10: 0849305853

ISBN-13: 978-0849305856

Product Dimensions: 6.4 x 1.1 x 9.5 inches

Shipping Weight: 1.3 pounds (View shipping rates and policies)

Average Customer Review: 3.6 out of 5 stars 4 customer reviews

Best Sellers Rank: #1,208,867 in Books (See Top 100 in Books) #93 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Extraction & Processing](#) #322 in [Books > Engineering & Transportation > Engineering > Materials & Material Science > Polymers & Textiles](#) #682 in [Books > Textbooks > Engineering > Industrial Engineering](#)

Customer Reviews

"Sanjay Mazumdar's book entitled Composites Manufacturing is intended to serve as a textbook for college students and/or a self-study tool for engineers and professionals in the composites industry...The book is well written and illustrated, logically organized and easy to follow. This book is a welcome to my library and is recommended to the readers with interest in the manufacturing of composites." -Jovan Mijovic, Professor, Polytechnic University

"a very good book that provides a comprehensive coverage for many aspects of Manufacturing of CompositesFor a newcomer, this book provides a good introduction into the many facets of Composites Manufacturing that needs to be known." Professor Hoa, pioneer of the course on Composite Manufacturing, CompositesWeek

"a wonderful checklist for those of us that have spent 30 years in the composite industry. It is a wonderful tool chest of knowledge that we all can use for review. This book is very much needed in the industry, to help train new people in the craft that most of us learned by the school of trial and errorI no longer see this book as it is being read by everyone around herevery impressed with this new book." -John Turner, Senior Manufacturing Engineer at Hitco Carbon Composites, Inc., "A comprehensive guide to composites that encompasses aspects for design, manufacture, tooling, and cost considerations of this complex field for aerospace and commercial applications. This book is an excellent source of information for all disciplines, bringing together both introductory and advanced resources in one publication." -Gerald E. Sutton, Vice President-RTM Advanced Technical Products, Inc., Intellitec Division, DeLand, Florida, USA

"This book is suitable for a broad range of users. It focuses on the fundamental processes an engineer or program manager must address when planning to employ advanced composites into his or her project. The book encompasses the latest technology and design issues as composite design science matures." -John Marks, Vice President and General Manager, COI Materials Inc., San Diego, California, USA"

Provides a broad overview of the topics of composites manufacturingPulls together key references and provides guidelines to help navigate through this complex fieldCovers many topics not often covered elsewhere, such as production planning, cost, and recycling" -Timothy Gutowski, Professor Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

"This is a good, basic introduction to the field of composites manufacturing and product development. The cost estimating and production planning chapters are very comprehensive. It contains many references to sources of more detailed information." -Dr. John O. Taylor, Vice President, Engineering and R&D, Goodrich Corporation, Glacier Garlock Bearings Division, Thorofare, New Jersey, USA

Good overview of composite manufacturing.

great. thanks

I was doing some research and had high hopes for this book. It was disappointing, for instance, I saw that there was a sub chapter about mold stiffness. Thinking that would probably explain how to calculate and design for appropriate mold stiffness, I bought the book. It literally simply says something along the lines of "make sure the mold is stiff enough." Well, I guess they covered that... Maybe the author was in a rush. The book is filled with this sort of checking off the boxes approach without a lot of substance. Many of the graphs were originally in color and are reproduced in non gray scale black and white and are completely useless. It is more a giant list of technologies and considerations. A very expensive list. Incredibly, the book is also physically disappointing. The spine delaminated when I first opened it, basically destroying the integrity of the book. I am unimpressed.

This book is reviewed by several leading experts in the field of composites manufacturing. Experts are from various companies and leading universities such as M.I.T. Top four reviews are as printed in the back cover of the book.

"A comprehensive guide to composites that encompasses aspects for design, manufacture, tooling, and cost considerations of this complex field for aerospace and commercial applications. This book is an excellent source of information for all disciplines, bringing together both introductory and advanced resources in one publication." By Gerald E. Sutton, Vice President-RTM, ATP, Inc., Intellitec Division, DeLand, Florida, USA" ~ ~ Provides a broad overview of the topics of composites manufacturing ~ ~ Pulls together key references and provides guidelines to help navigate through this complex field ~ ~ Covers many topics not often covered elsewhere, such as production planning, cost, and recycling" By Timothy Gutowski, Professor Department of Mechanical Engineering, Massachusetts Institute of Technology (M.I.T.), Cambridge, Massachusetts, USA

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Glacier Garlock Bearings Division, Thorofare, New Jersey, USA" The book covers the whole spectrum of topics from the Applications of Composite Materials, Raw Materials, Materials Selection for Manufacturing, Product Development, Design for Manufacturing, Manufacturing Techniques, Process Models, Production Planning and Manufacturing Instructions, Joining, Machining and Cutting, Cost Estimation and Recycling. Therefore in one volume one can find all aspects related to the Manufacturing of Composites. This book therefore will be useful as an introduction to different aspects of Composites Manufacturing. The chapter on Materials Selection Guidelines provide interesting concept for the Selection of Materials. The chapter on Cost estimation also provides useful guidelines for the manufacturer. This book is highly recommended for the people that consider doing Manufacturing using Composites." By Prof. S.V. Hoa, Director of Concordia Center for Composites at Concordia University, Montreal, Canada.

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