Mikell P. Groover

DESCRIPTION

Fundamentals of Modern Manufacturing: Materials, Processes, and Systems, 6th Edition, is designed for a first course or two-course sequence in Manufacturing at the junior level in Mechanical, Industrial, and Manufacturing Engineering curricula. As in preceding editions, the author's objective is to provide a treatment of manufacturing that is modern and quantitative. The book's modern approach is based on balanced coverage of the basic engineering materials, the inclusion of recently developed manufacturing processes and comprehensive coverage of electronics manufacturing technologies. The quantitative focus of the text is displayed in its emphasis on manufacturing science and its greater use of mathematical models and quantitative end-of-chapter problems.

ABOUT THE AUTHOR

Mikell P. Groover is Professor of Industrial and Manufacturing Systems Engineering at Lehigh University, where he also serves as Director of the Manufacturing Technology Laboratory. He holds the following degrees all from Lehigh: B.A. in Arts and Science, B.S. in Mechanical Engineering, M.S. and Ph.D. in Industrial Engineering. He is a Registered Professional Engineer in Pennsylvania. His industrial experience includes full-time employment at Eastman Kodak Company as a Manufacturing Engineer.
Since joining Lehigh, he has done consulting, research, and project work for a number of industrial companies including Ingersoll-Rand, Air Products & Chemicals, Bethlehem Steel, and Hershey Foods.

**NEW TO EDITION**

- Approximately 30% of the end-of-chapter problems are new or revised.

- Section 1.5 on Manufacturing Economics has been updated with two new equations added.

- Section 10.2.1 on Heating the Metal has been revised to introduce the concept of “unit energy for melting and pouring” and a new example problem and several end-of-chapter problems have been added.

- A new section on Casting Economics has been added to Chapter 11, including equations, example problems, and end-of-chapter problems.

- A new section on Automated Lay-up has been added to Chapter 14.

- Sections 20.4 on Power and Energy Relationships in Machining and 20.5 on Cutting Temperature have been revised and simplified.

- A new section on Welding Economics has been added to Chapter 29, including equations, example problems, and end-of-chapter problems.

- New application examples on additive manufacturing have been added to Chapter 32.

- Chapter 33 on Processing of Integrated Circuits has been updated.

- Section 35.1 on Microsystem Products has been simplified to place more emphasis on microfabrication processes.
• Updated content on Process Planning and Production Control

FEATURES

• Coverage of recently developed manufacturing processes is continually added, keeping pace with the changes in the manufacturing industry.

• Contains comprehensive coverage of electronics manufacturing technologies, acknowledging the substantial increase in commercial importance of electronics products and their associated industries.

• Emphasizes the science of manufacturing

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