Book Reviews

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1 Manufacturing Technology – Materials, Processes and Equipment

by: Helmi A. Youssef, Hassan A. El-Hofy and Mahmoud H. Ahmed
Published 2012
by CRC Press
Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, USA, 915pp
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Manufacturing presents an important role in economic development of many countries with special emphasis to countries with emergent economies. Manufacturing is recognised as an important subject of research and development with directly application in modern industry. This book describes the fundamentals of processes, their capabilities, typical applications, advantages and limitations.

This book covers the principles of manufacturing technology with quality in 25 chapters. After the introduction (Chapter 1) on manufacturing technology, properties of engineering materials are explained in Chapter 2. Chapters 3, 4, 5 and 6 describe structure of metal and alloys, materials engineering and their applications, heat treatments of metals and alloys, smelting of metallic materials, respectively. Chapter 7 provides information on casting of metallic materials. Chapter 8 is devoted of fundamentals of metal forming. Subsequently, chapters 9, 10 and 11, describe bulk forming of metallic materials, sheet metal forming processes, high-velocity forming and high-energy-rate-forming, respectively. Chapter 12 provides information on powder metallurgy and processing of ceramic materials. Chapter 13 is devoted of polymeric materials and their processing. Chapter 14 provides information on composite materials and their fabrication processes. The fundamentals of traditional machining processes are described in chapter 15 and the next chapters 16, 17, 18 are devoted to machine tools for traditional machining, non-traditional machining processes, numerical control of machine tools, respectively. Chapter 19 is devoted to industrial robots and hexapods. Chapters 20, 21, 22 and 23 describe surface technology, joining processes, advanced manufacturing techniques, design for manufacturing, respectively. Chapter 24 provides information on quality control. Finally, chapter 25 is devoted of automation in manufacturing technology.

The present book can be used for undergraduate engineering course (for example, manufacturing, industrial, mechanical, materials, etc.). Also, this book can serve as a useful reference for students at technical colleges, mechanical, manufacturing, industrial and materials engineers, professionals in related industries with manufacturing technology.

2 Machining Technology – Machine Tools and Operations
by: Helmi A. Youssef and Hassan El-Hofy
Published 2008
by CRC Press
Taylor & Francis Group, 6000 Broken Sound Parkway NW,
Suite 300, Boca Raton, USA, 633pp
ISBN: 978-1-4200-4339-6 (Hardcover)

Machining technology presents an important role in economy of many industrialised countries and is a key factor for industrial manufacturing. This book describes the traditional and non-traditional machining processes and elucidates on the basic fundamentals and operations of the general purpose machine tools. The authors begin with basic principles of machining processes, machine tools elements and control systems and to finish with ecological machining and the most recent machining technologies.

This book covers machining technology with quality in fifteen chapters. After the short introduction (Chapter 1) with the historical and basic aspects involved in machining technology, basic elements and mechanisms of machine tools are explained in Chapter 2. Chapters 3, 4, 5 and 6 describe machine tools, thread cutting, gear cutting machines, turret and capstan lathes, respectively. Chapter 7 provides information on automated lathes. Chapter 8 is devoted computer numerical control technology. Subsequently, chapters 9 and 10 describe hexapods and machining technology, machine tool dynamometers, respectively. The non-traditional machine tools are described in chapter 11. Chapter 12 is devoted to environment-friendly machine tools and operations. Some more recent developments in design for machining, accuracy and surface integrity are studied in chapters 13 and 14. Finally, chapter 15 is devoted to automated manufacturing system.

The present book can be used for undergraduate engineering course (for example, manufacturing, mechanical, etc). Also, this book can serve as a useful reference for students at technical colleges, mechanical and manufacturing engineers, professionals in related industries with machine tools and machining processes.