
Book Reviews

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1 Cutting Tool Technology

by: Graham T. Smith

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by Springer UK. 599pp.

ISBN: 978-1-84800-204-3 (Hardcover)

Cutting tool technology presents an important role in metal cutting. Cutting tool is a key factor for the machining operation success. Today, many types of tool materials are used as cutting tool in modern metalworking industry. The five more important groups are the cemented carbides, ceramics, polycrystalline cubic boron nitrides (PCBNs), polycrystalline diamonds (PCDs) and solid or thick film diamonds (SFDs or TFDs). The properties of modern tool materials present great importance in the cutting geometry as well as in the performance of the cutting tool.

This industrial handbook covers the cutting tool technology with high quality in nine chapters. Chapter 1 provides the fundamentals of cutting tool materials. Chapter 2 described turning and chip-breaking technology. Chapter 3 provides information on drilling and associated technologies. Chapter 4 is devoted milling cutters and associated technologies. Chapter 5 covers threading technologies and Chapter 6 modular tooling and tool management. Subsequently, Chapter 7 contains information on machinability and surface integrity. Chapter 8 is devoted to cutting fluids. Finally, Chapter 9 provides information on machining and monitoring strategies.

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.

2 Applied Machining Technology

by Heinz Tschatsch

Published 2009

by Springer, 398pp.

ISBN: 978-3-642-01006-4 (Hardcover)

Today, machining technology presents an important role in economic development of many countries. Metal cutting techniques are key factors for industrial manufacturing. The classical aspects of metal cutting and the fundamentals of machine tools operations are described in this work. Also, some recent advances in metal cutting are presented, namely, high-speed cutting and metalworking fluids for machining.

This book covers the principles of applied machining technology with quality in 24 chapters. After the short introduction (chapter 1) with the basic aspects involved in machining technology, fundamentals of machining are explained for turning in chapter 2. Chapters 3, 4, 5 and 6 described tool life, tool and machine curves, metal removal rate and cutting materials respectively. Chapter 7 provides information on turning. Chapter 8 is devoted planning and slotting. Subsequently, chapters 9, 10, 11, 12, 13 described drilling, sawing, milling, broaching and grinding, respectively. The abrasive cutting is described in chapter 14 and the next chapters 15, 16, 17, 18 are devoted to abrasive belt grinding, honing, superfinishing and lapping, respectively. Chapter 19 is devoted to further refinement of the cutting materials. Some more recent developments in metal cutting (high-speed cutting and cutting fluids) are studied in chapters 20 and 21. Chapter 22 is devoted to cutting force measurement in machining. Finally, chapters 23 and 24 provide important tables for general use and an appendix.

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.