

<<机械设计>>

图书基本信息

书名：<<机械设计>>

13位ISBN编号：9787121042218

10位ISBN编号：7121042215

出版时间：2007-5

出版时间：电子工业出版社

作者：莫特

页数：567

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<机械设计>>

内容概要

本书是美国Robert L. Mott教授所著Machine Elements in Mechanical Design (Fourth Edition , 2004) 的缩编版。

缩编者在保持原书特色和风格的前提下, 根据我国机械设计课程的教学要求, 删去了原书中与我国其他先修课程重复的部分内容, 将原书23章缩编为16章, 并将计量单位转换为公制。

缩编后的内容包括: 机械设计概论, 带传动与链传动, 齿轮传动与蜗杆传动, 轴, 轴联接件(键、联轴器、密封), 滚动轴承, 滑动轴承, 紧固件, 弹簧, 机座, 离合器与制动器, 设计大作业等。

本书可作为高等学校工科机械类专业机械设计课程的双语教学教材, 也可供从事机械专业的教师、研究生或工程技术人员参考。

书籍目录

PATR Principles of Design and Stress Analysis1 The Nature of Mechanical DesignThe Big PictureYou Are the Designer1-1 Objectives of This Chapter1-2 The Mechanical Design Process1-3 Skills Needed in Mechanical Design1-4 Functions, Design Requirements, and Evaluation Criteria1-5 Example of the Integration of Machine Elements into a Mechanical Design1-6 Computational Aids in This Book1-7 Design Calculations1-8 Unit SystemsReferencesProblems2 Materials in Mechanical DesignThe Big PictureYou Are the Designer2-1 Objectives of This Chapter2-2 Properties of Materials2-3 Classification of Metals and Alloys2-4 Variability of Material Properties Data2-5 Carbon and Alloy Steel2-6 Conditions for Steels and heat Treatment2-7 Materials SelectionReferencesProblems3 Design for Different Types of LoadingThe Big Picture3-1 Objectives of This Chapter3-2 Types of Loading and Stress Ratio3-3 Endurance Strength3-4 Estimated Actual Endurance Strength,3-5 Example Problems for Estimating Actual Endurance Strength3-6 Design Philosophy3-7 Design Factors3-8 Predictions of Failure3-9 Design Analysis Methods3-10 General Design Procedure3-11 Design Examples3-12 Statistical Approaches to Design3-13 Finite Life and Damage Accumulation MethodReferencesProblemsPATR Design of a Mechanical Drive4 Belt Drives and Chain DrivesThe Big PictureYou Are the Designer4-1 Objectives of This Chapter4-2 Types of Belt Drives4-3 V-Belt Drives4-4 V-Belt Drive Design4-5 Chain Drives4-6 Design of Chain DrivesReferencesProblems5 Spur Gear DesignThe Big PictureYou Are the Designer5-1 Objectives of This Chapter5-2 Spur Gear Nomenclature and Gear-Tooth Features5-3 Forces, Torque, and Power in Gearing5-4 Gear Manufacture5-5 Gear Quality5-6 Allowable Stress Numbers5-7 Metallic Gear Materials5-8 Stresses in Gear Teeth5-9 Selection of Gear Material Based on Bending Stress5-10 Pitting Resistance of Gear Teeth5-11 Selection of Gear Material Based on Contact Stress5-12 Design of Spur Gears5-13 Gear Design for the Metric Module System5-14 Computer-Aided Spur Gear Design and Analysis5-15 Use of the Spur Gear Design Spreadsheet5-16 Power-Transmitting Capacity5-17 Practical Considerations for Gears and Interfaces with Other ElementsReferencesProblems6 Helical Gears, Bevel Gears, and Wormgearing7 Keys, Couplings, and Seals8 Shaft Design9 Rolling Contact Bearings10 Completion of the Design of a Power TransmissionPATR Design Details and Other Machine Elements11 Plain Surface Bearings12 Fasteners13 Springs14 Machine Frames, Bolted Connections, and Welded Joints15 Motion Control: Clutches and Brakes16 Design ProjectsAppendicesAppendix 1 Preferred Basic Sizes and Screw ThreadsAppendix 2 Design Properties of Carbon and Alloy SteelsAppendix 3 Properties of Heat-Treated SteelsAppendix 4 Properties of Carburized SteelsAppendix 5 Beam-Deflection FormulasAppendix 6 Stress Concentration FactorsAppendix 7 Conversion FactorsAppendix 8 Hardness Conversion TableAnswers to Selected Problems

<<机械设计>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>