Robert C. Juvinall, Kurt M. Marshak

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DESCRIPTION

Valued as a standard in the course, Juvinall and Marshek's Fundamentals of Machine Component Design continues to focus on the fundamentals of component design -- free body diagrams, force flow concepts, failure theories, and fatigue design, with applications to fasteners, springs, bearings, gears, clutches, and brakes. Problem-solving skills are developed by the implementation of a proven methodology which provides a structure for accurately formulating problems and clearly presenting solutions. The sixth edition includes additional coverage of composites, the material selection process, and wear/wear theory, along with new and updated examples and homework problems.

ABOUT THE AUTHOR

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NEW TO EDITION

• Many end-of-chapter problems and worked examples have been added or revised throughout the book. New homework problems outline real world safety issues adapted from actual case studies.

• A new section introduces composite materials and their properties to the student. New references provide the student with a foundation of information regarding composite materials.

• New topics MIL-HDBK-5J and MIL-HDBK-17 are introduced which aid the student in selection and use of common engineering materials.

• Web site addresses are given throughout the text to provide the student with access to additional information on topics including industrial standards, part selection, and properties of materials.

• A new sample problem gives the student a powerful tool to analyze complex stress states, and new related homework problems give opportunity for the student to polish analysis skills.

FEATURES

• Problem Solving Methodology & Graphical Procedures. The problem-solving methodology used in the text helps students to formulate machine component problems accurately and to present solutions clearly. The graphical procedures employed help students to understand and visualize what is going on, develop added insight about the significance of the results, and think about how the design might be improved.

• Emphasizes the Basic Concepts of Fracture Mechanics. This section includes stress-intensity factor charts for eight common geometric configurations. Introductory fracture mechanics problems support understanding these critical concepts.
• *Extensive Coverage of Important Reference Information.* Appendices include the following topics: engineering materials, processing methods, join ability, materials for machine component design, selected engineering materials, and relations between failure modes and material properties.

For additional product details, please visit [https://www.wiley.com/en-us](https://www.wiley.com/en-us)