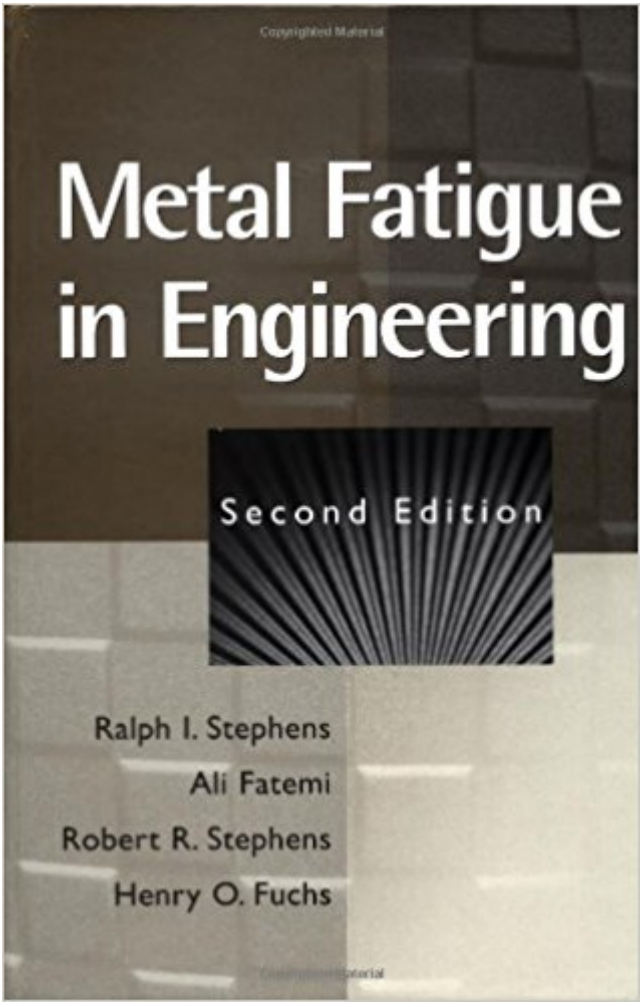
Metal Fatigue In Engineering



Synopsis

Classic, comprehensive, and up-to-date Metal Fatigue in Engineering Second Edition For twenty years, Metal Fatigue in Engineering has served as an important textbook and reference for students and practicing engineers concerned with the design, development, and failure analysis of components, structures, and vehicles subjected to repeated loading. Now this generously revised and expanded edition retains the best features of the original while bringing it up to date with the latest developments in the field. As with the First Edition, this book focuses on applied engineering design, with a view to producing products that are safe, reliable, and economical. It offers in-depth coverage of today’s most common analytical methods of fatigue design and fatigue life predictions/estimations for metals. Contents are arranged logically, moving from simple to more complex fatigue loading and conditions. Throughout the book, there is a full range of helpful learning aids, including worked examples and hundreds of problems, references, and figures as well as chapter summaries and "design do’s and don’ts" sections to help speed and reinforce understanding of the material. The Second Edition contains a vast amount of new information, including: * Enhanced coverage of micro/macro fatigue mechanisms, notch strain analysis, fatigue crack growth at notches, residual stresses, digital prototyping, and fatigue design of weldments * Nonproportional loading and critical plane approaches for multiaxial fatigue * A new chapter on statistical aspects of fatigue

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Customer Reviews

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RALPH I. STEPHENS is Professor of Mechanical Engineering at The University of Iowa in Iowa City. ALI FATEMI is Professor of Mechanical, Industrial, and Manufacturing Engineering at The University of Toledo in Ohio. ROBERT R. STEPHENS is Associate Professor of Mechanical Engineering at The University of Idaho in Moscow, Idaho. The late HENRY O. FUCHS was Professor, and then Professor Emeritus, at Stanford University in Palo Alto, California.

Very helpful.

Great book, concise and clear material. Keeping as a professional reference after finishing the class it was purchased for.

This is a great book. Clearly written with many illustrative solutions that guide the reader through some complicated analysis procedures. This is a relatively comprehensive and up-to-date introduction to the field. In my opinion, a good place to start learning for a career in this field.

Its a textbook!

Was what it was supposed to be.

Very good book. It tackles all the main aspects of modern Fatigue Analysis. The atentive reader, following the text with a paper and pencil besdies, will extract valuable ideas for procedures. I am looking forward for books written in the same style.

Stephens tries to capture as much information in this book as needed for the practicing fatigue engineer. It’s a great book to have on the shelf.

This is an excellent textbook. It covers all of the basic aspects of metal fatigue and some topics that are left out of elementary texts; for instance, environmental effects, the fatigue of weldments and the statistical aspects of fatigue. The book begins with an excellent historical review of the subject, which contains capsule biographies of some of the most important contributors to the field. Both the stress and strain life approaches are covered, as are, crack nucleation and growth, the fatigue in notches, and variable amplitude loading. While the book is not primarily a source for fatigue data, it does contain some specific data. This book is not as detailed or comprehensive as Suresh’s Fatigue of Materials, but it is, in my opinion, a much better choice as a textbook for use in a course (advanced undergraduate or graduate) on metal fatigue or as part of a course on the mechanical properties of materials. In fact, in my opinion it is currently the best choice as a textbook on the subject of fatigue.

Individualized Plan for Preventing and Treating the Conditions That Cause Fatigue The Fatigue and Fibromyalgia Solution: The Essential Guide to Overcoming Chronic Fatigue and Fibromyalgia, Made Easy! Adrenal Fatigue: Overcome Adrenal Fatigue Syndrome, Boost Energy Levels, and Reduce Stress Hormone Diet: The Hormone Reset Diet, Balance Hormones, Recharging Health and Losing Weight Effortlessly! BONUS Hormone Reset Diet Recipes! (adrenal fatigue diet, adrenal fatigue, Adrenal Fatigue Cure Guide (Beat Chronic fatigue): Restoring your Hormones and Controling Thyroidism Adrenal Fatigue: Combat Adrenal Fatigue Syndrome Naturally and Boost Your Energy Levels for Good! Reset Your Natural Balance Now! (Reduce Stress, Boost Energy, Adreanl Reset Diet Book 1) Adrenal Fatigue: Combat Adrenal Fatigue Syndrome Naturally and Boost Your Energy Levels for Good! Reset Your Natural Balance Now! Insomnia: 84 Sleep Hacks To Fall Asleep Fast, Sleep Better and Have Sweet Dreams Without Sleeping Pills (Sleep Disorders, Sleep Apnea Snoring, Sleep Deprivation, ... Fatigue, Chronic Fatigue Syndrome Book 1) Fracture and Fatigue Control in Structures: Applications of Fracture Mechanics (Prentice-Hall International Series in Civil Engineering and Engineering Mechanics) 5 Steps to Restoring Health Protocol: Helping those who haven’t been helped with Lyme Disease, Thyroid Problems, Adrenal Fatigue, Heavy Metal Toxicity, Digestive Issues, and More! Fundamentals of Metal Fatigue Analysis Metal Fatigue: Effects of Small Defects and Nonmetallic Inclusions Precious Metal: Decibel Presents the Stories Behind 25 Extreme Metal Masterpieces