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Mechanics of Engineering Materials - Peter Philip Benham 1987

Mechanics of Engineering Materials is the definitive textbook on the mechanics and strength of materials for students of engineering principles throughout their degree course. Assuming little or no prior knowledge, the theory of the subject is developed from first principles covering all topics of stress and strain analysis up to final year level.

Aluminium Cast House Technology - The Minerals, Metals & Materials Society (TMS) 2013-10-15

Wear of Engineering Materials - Jeffery A. Hawk 1998-06-01

Symposium proceedings contains information on some of the latest work involving the development, assessment, and application of wear-resistant materials. Nearly 60 papers by authors from more than 10 countries discuss fundamental and applied research in the areas of wear, erosion, and wear-corrosion of materials.

Shock Wave Science and Technology Reference Library, Vol. 5 - Blaine Asay 2009-12-16

Los Alamos National Laboratory is an incredible place. It was conceived and born amidst the most desperate of circumstances.

It attracted some of the most brilliant minds, the most innovative entrepreneurs, and the most creative tinkerers of that generation. Out of that milieu emerged physics and engineering that beforehand was either unimagined, or thought to be fantasy. One of the fields essentially invented during those years was the science of precision high explosives. Before 1942, explosives were used in munitions and commercial pursuits that demanded proper chemistry and confinement for the necessary effect, but little else. The needs and requirements of the Manhattan project were of a much more precise and specific nature. Spatial and temporal specifications were reduced from centimeters and milliseconds to micrometers and nanoseconds. New theory and computational tools were required along with a raft of new experimental techniques and novel ways of interpreting the results. Over the next 40 years, the emphasis was on higher energy in smaller packages, more precise initiation schemes, better and safer formulations, and greater accuracy in forecasting performance. Researchers from many institutions began working in the emerging and expanding field. In the midst of all of the work and progress in precision initiation and scientific study, in the early 1960s, papers began to appear detailing the first quantitative studies of the transition from deflagration to detonation (DDT), first

in cast, then in pressed explosives, and finally in propellants.
Chartered Mechanical Engineer - 1974

Whitaker's Book List - 1987

Emerging Technologies in Fluids, Structures, and Fluid/structure Interactions - 2002

Rubber in the Environmental Age - 1996

The British Library General Catalogue of Printed Books, 1986 to 1987 - British Library 1988

Elementary Mechanics of Solids - P. P. Benham 2014-05-09
Elementary Mechanics of Solids presents the three fundamental principles, namely, equilibrium of forces, stress-strain relationship, and geometry and compatibility of deformations. This book discusses the concept of simplifying assumptions about behavior to obtain the simpler engineering solutions. Organized into seven chapters, this book begins with an overview of the theory of elasticity. This text then presents a detailed discussion of biaxial stress and strain systems as well as the generalized stress-strain relationships. Other chapters consider the determination of deflections of straight and curved beams due to shearing and bending action. This book discusses as well the elastic torsion of various thin-walled closed and open sections as well as the shaft of solid circular cross section. The final chapter discusses some cases in which the combined effects of torsion and bending occur. This book is a valuable resource for students who wish to obtain a university degree in engineering, diploma of technology, or higher national certificate.

The British National Bibliography Cumulated Subject Catalogue - 1970

Paperbacks in Print - 1979

The Aeronautical Journal - 1988

Mechanics of Materials 2 - E.J. Hearn 1997-11-25

One of the most important subjects for any student of engineering or materials to master is the behaviour of materials and structures under load. The way in which they react to applied forces, the deflections resulting and the stresses and strains set up in the bodies concerned are all vital considerations when designing a mechanical component such that it will not fail under predicted load during its service lifetime. Building upon the fundamentals established in the introductory volume *Mechanics of Materials 1*, this book extends the scope of material covered into more complex areas such as unsymmetrical bending, loading and deflection of struts, rings, discs, cylinders plates, diaphragms and thin walled sections. There is a new treatment of the Finite Element Method of analysis, and more advanced topics such as contact and residual stresses, stress concentrations, fatigue, creep and fracture are also covered. Each chapter contains a summary of the essential formulae which are developed in the chapter, and a large number of worked examples which progress in level of difficulty as the principles are enlarged upon. In addition, each chapter concludes with an extensive selection of problems for solution by the student, mostly examination questions from professional and academic bodies, which are graded according to difficulty and furnished with answers at the end.

Plastics Engineering - Roy J. Crawford 1998-02-06

This book presents in a single volume the basic essentials of the properties and processing behaviour of plastics and composites. The aim is to give engineers and technologists a sound understanding of basic principles without the introduction of unduly complex levels of mathematics or chemistry and thereby set plastics in their proper context as engineering materials. This

textbook pioneered the approach whereby both properties and processing of reinforced and unreinforced plastics are covered in a single volume. It assumes no prior knowledge of plastics, and emphasises the practical aspects of the subject. In this third edition over half the book has been re-written and the remainder has been updated and re-organised. Early chapters give an introduction to the types of plastics which are currently available and describe how a designer goes about the selection of a plastic for a particular application. Later chapters lead the reader into more advanced aspects of mechanical design and analysis of polymer melt flow. All techniques developed are illustrated by numerous worked examples, and problems are given at the end of each chapter - the solutions to which form one of the appendices. Solutions! - 2004

British Books in Print - 1971

Applied Mechanics Reviews - 1971

Reference Catalogue of Current Literature - 1920

Scientific and Technical Books in Print - 1972

Technical Books in Print - 1974

The Mechanical Behaviour of Engineering Materials - W. D. Biggs 2013-10-22

The Mechanical Behaviour of Engineering Materials aims to relate properties and structure, and to provide a theoretical basis upon which to extrapolate when conditions or materials outside previous experience arise. The present text refers primarily to metals and alloys, other (non-crystalline) solids are treated rather less fully. This is largely dictated by the state of knowledge at the present time, for although there is a large mass of data concerning

the properties of non-metallic materials, much of this is empirical and a full explanation is made difficult by the complexities of an irregular initial structure. The book can be divided into the three sections covering constitution, properties, and significance of test data. Separate chapters discuss properties such as heterogeneity, elasticity, plasticity, and fracture. Subsequent chapters deal with tensile and hardness tests; creep, fatigue and impact tests; and the selection of engineering materials. Throughout the text the author has endeavored to confine the discussion to those aspects of materials science which appear to be reasonably well understood at the present time.

Journal of the South African Institute of Mining and Metallurgy - South African Institute of Mining and Metallurgy 1991

Whitaker's Books in Print - 1990

Understanding and Using Structural Concepts - Tianjian Ji 2015-12-02

Understanding and Using Structural Concepts, Second Edition provides numerous demonstrations using physical models and practical examples. A significant amount of material, not found in current textbooks, is included to enhance the understanding of structural concepts and stimulate interest in learning, creative thinking, and design. This is achieved

Mechanics of Engineering Materials - Peter Philip Benham 1996

Accessions List - University of London. Library 1965

Materials and Structures - R. Whitlow 2014-06-03

The second edition of this highly informative book retains much original material covering the principles of structural mechanics and the strength of materials, together with the underlying concepts requisite to the theory of structure and structural design.

Some of the material involving lengthy hand-drawing or hand-calculation has been replaced with more up-to-date relevant material and frequent reference is made to computer-aided learning techniques.

Mechanics of Materials - Ferdinand Pierre Beer 2006

Publisher description

Nonlinear Elasticity - London Mathematical Society 2001-05-07

Nonlinear elasticity is concerned with nonlinear effects associated with deformations of elastic bodies subjected to external forces or temperature variations. It has important applications in many areas, including the aerospace and rubber industries, and biomechanics. This book, written by a group of leading researchers invited especially for the purpose, provides an up-to-date and concise account of the fundamentals of the theory of nonlinear elasticity and a comprehensive review of several major current research directions in this important field. It combines the characteristics of coherence and detail found in standard treatises with the strength and freshness of research articles. The emphasis is placed firmly on coverage of modern topics and recent developments rather than on the very theoretical approach often found. The book will be an excellent reference source for both beginners and specialists in engineering, applied mathematics and physics. It is also ideally suited for graduate courses.

The Chartered Mechanical Engineer - 1974

The British National Bibliography - Arthur James Wells 1967

Architecture of the Well-Tempered Environment - Reyner Banham 2022-07-26

Reyner Banham was a pioneer in arguing that technology, human needs, and environmental concerns must be considered an integral part of architecture. No historian before him had so systematically explored the impact of environmental engineering on the design of buildings and on the minds of architects. In this

revision of his classic work, Banham has added considerable new material on the use of energy, particularly solar energy, in human environments. Included in the new material are discussions of Indian pueblos and solar architecture, the Centre Pompidou and other high-tech buildings, and the environmental wisdom of many current architectural vernaculars.

Stress, Strain and Engineering Education - Peter Philip Benham 1971

IUTAM Symposium on Multiscale Problems in Multibody System Contacts - Peter Eberhard 2007-05-26

The investigation of multiscale problems in multibody system contacts is an interesting and timely topic which has been the subject of intensive research. This IUTAM Symposium facilitated discussions between researchers active in the field. This proceedings volume summarizes contributions of many authors active in the field and gives insight in very different areas of this fascinating research. It reviews the state-of-the-art and identifies future hot topics.

Introduction to Aircraft Aeroelasticity and Loads - Jan Robert Wright 2008-02-08

Aircraft performance is influenced significantly both by aeroelastic phenomena, arising from the interaction of elastic, inertial and aerodynamic forces, and by load variations resulting from flight and ground manoeuvres and gust / turbulence encounters. There is a strong link between aeroelasticity and loads, and these topics have become increasingly integrated in recent years. Introduction to Aircraft Aeroelasticity and Loads introduces the reader to the main principles involved in a wide range of aeroelasticity and loads topics. Divided into three sections, the book begins by reviewing the underlying disciplines of vibrations, aerodynamics, loads and control. It goes on to describe simplified models to illustrate aeroelastic behaviour and aircraft response before introducing more advanced methodologies. Finally, it explains how

industrial certification requirements for aeroelasticity and loads may be met and relates these to the earlier theoretical approaches used. Presents fundamentals of structural dynamics, aerodynamics, static and dynamic aeroelasticity, response and load calculations and testing techniques. Covers performance issues related to aeroelasticity such as flutter, control effectiveness, divergence and redistribution of lift. Includes up-to-date experimental methods and analysis. Accompanied by a website with MatLAB and SIMULINK programs that relate to the models used. Introduction to Aircraft Aeroelasticity and Loads enables the reader to understand the aeroelastic and loads principles and procedures employed in a modern aircraft design office. It will appeal to final year undergraduate and masters students as well as engineers who are new to the aerospace industry.

Mechanics of Engineering Materials - Peter Philip Benham
1987

A comprehensive textbook on the mechanics and strength of materials for students of engineering throughout their undergraduate career. Assuming little or no prior knowledge, all of the topics of stress and strain analysis are covered. Mechanical properties such as tensile behavior, fatigue, creep, fracture, and impact are discussed, including the introduction of such advanced topics as finite element analysis, fracture mechanics, and composite materials. Computers and spreadsheets are used throughout to show their power as problem-solving tools.

Books in Print - 1991

Introduction to Aircraft Aeroelasticity and Loads - Jan R. Wright
2014-12-16

Introduction to Aircraft Aeroelasticity and Loads, Second Edition is

an updated new edition offering comprehensive coverage of the main principles of aircraft aeroelasticity and loads. For ease of reference, the book is divided into three parts and begins by reviewing the underlying disciplines of vibrations, aerodynamics, loads and control, and then goes on to describe simplified models to illustrate aeroelastic behaviour and aircraft response and loads for the flexible aircraft before introducing some more advanced methodologies. Finally, it explains how industrial certification requirements for aeroelasticity and loads may be met and relates these to the earlier theoretical approaches used. Key features of this new edition include: Uses a unified simple aeroelastic model throughout the book Major revisions to chapters on aeroelasticity Updates and reorganisation of chapters involving Finite Elements Some reorganisation of loads material Updates on certification requirements Accompanied by a website containing a solutions manual, and MATLAB® and SIMULINK® programs that relate to the models used For instructors who recommend this textbook, a series of lecture slides are also available Introduction to Aircraft Aeroelasticity and Loads, Second Edition is a must-have reference for researchers and practitioners working in the aeroelasticity and loads fields, and is also an excellent textbook for senior undergraduate and graduate students in aerospace engineering.

Spacecraft Structures - J. Jaap Wijker 2008-01-08

Space flight is a comprehensive and innovative part of technology. It encompasses many fields of technology. This monograph presents a cross section of the total field of expertise that is called "space flight". It provides an optimal reference with insight into the design, construction and analysis aspects of spacecraft. The emphasis of this book is put on unmanned space flight, particularly on the construction of spacecraft rather than the construction of launch vehicles.