

Structural Elements Design Manual Working With Eurocodes 1st Edition Paperback By Draycott Trevor Bullman Peter Published By Butterworth Heinemann

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PCI Manual for the Design of Hollow Core Slabs - Donald R. Buettner 1985

Design of Steel Structures - ECCS - European Convention for Constructional Steelwork 2014-01-22

This book introduces the design concept of Eurocode 3 for steel structures in building construction, and their practical application. Following a discussion of the basis of design, including the limit state approach, the material standards and their use are detailed. The fundamentals of structural analysis and modeling are presented, followed by the design criteria and approaches for various types of structural members. The following chapters expand on the principles and applications of elastic and plastic design, each exemplified by the step-by-step design calculation of a braced steel-framed building and an industrial building, respectively. Besides providing the necessary theoretical concepts for a good understanding, this manual intends to be a supporting tool for the use of practicing engineers. In order of this purpose, throughout the book, numerous worked examples are provided, concerning the analysis of steel structures and the design of elements under several types of actions. These examples will provide for a smooth transition from earlier national codes to the Eurocode.

Manual for the Design of Plain Masonry in Building Structures to Eurocode 6 - 2018

Structural Steelwork - Dennis Lam 2018-10-08

Completely revised and updated, this fourth edition of *Structural Steelwork: Design to Limit State Theory* describes the design theory and code requirements for common structures, connections, elements, and frames. It provides a comprehensive introduction to structural steelwork design with detailed explanations of the principles underlying steel design. See what's in the Fourth Edition: All chapters updated and rearranged to comply with Eurocode 3 Compliant with the other Eurocodes Coverage of both UK and Singapore National Annexes Illustrated with fully worked examples and practice problems The fourth edition of an established and popular text, the book provides guidance for students of structural and civil engineering and is also sufficiently informative for practising engineers and architects who need an introduction to the Eurocodes.

Constructing Professional Discourse - Concepción Orna-Montesinos 2012-01-17

This book explores the fascinating role that language plays in the construction of non-verbal objects by mapping out the ontological meaning of the specialised concepts and the domain-specific knowledge embedded in them. In doing so, it provides a comprehensive linguistic insight into the discourse of professional domain-specific communities and hence, into the communication practices and procedures of those communities. In this respect, the book offers a response to the claims made by many of the most influential applied linguists today, such as Vijay Bhatia (1993, 2004), John Swales (1990, 2004) or Ken Hyland (2002), among others, who have consistently defended the need for applied linguistic research into the textual, generic and social perspectives on the under-researched interrelatedness of the discursive and professional practices of a discipline. Specifically, this book provides readers with an integrative multi-perspective approach to the study of professional, domain-specific discourses. While it mainly draws on the tenets of genre theory and discourse semantics, it also nurtures from the theoretical and empirical

foundations of applied linguistics, cognitive linguistics, corpus linguistics and ontological engineering. The book starts from the analysis of domain specific texts as final written products with specific lexicogrammatical, semantic and rhetorical features to later enquire into the written products as textual artefacts closely linked to the social context of production and interpretation of the text. This integrative approach provides fresh new insights into the way the processes of writing are affected by the community-specific, institutional and socio-historical circumstances in which domain-specific texts are produced.

Aluminium Design and Construction - John Dwight 1998-12-10

Provides a practical design guide to the structural use of aluminium. The first chapters outline basic aluminium technology and the advantages of using aluminium in many structural applications. The major part of the book deals with structural design and presents very clear guidance for designers, with numerous diagrams, charts and examples.

Precast Concrete Structures - Kim S. Elliott 2019-08-08

This second edition of *Precast Concrete Structures* introduces the conceptual design ideas for the prefabrication of concrete structures and presents a number of worked examples that translate designs from BS 8110 to Eurocode EC2, before going into the detail of the design, manufacture, and construction of precast concrete multi-storey buildings. Detailed structural analysis of precast concrete and its use is provided and some details are presented of recent precast skeletal frames of up to forty storeys. The theory is supported by numerous worked examples to Eurocodes and European Product Standards for precast reinforced and prestressed concrete elements, composite construction, joints and connections and frame stability, together with extensive specifications for precast concrete structures. The book is extensively illustrated with over 500 photographs and line drawings.

Steel Designers' Manual Fifth Edition: The Steel Construction Institute - Institute Steel Construction 1993-01-18

This classic manual for structural steelwork design was first published in 1956. Since then, it has sold many thousands of copies worldwide. The fifth edition is the first major revision for 20 years and is the first edition to be fully based on limit state design, now used as the primary design method, and on the UK code of practice, BS 5950. It provides, in a single volume, all you need to know about structural steel design.

Structural Engineer's Pocket Book: Eurocodes - Fiona Cobb 2014-11-11

Functions as a Day-to-Day Resource for Practising Engineers The hugely useful *Structural Engineer's Pocket Book* is now overhauled and revised in line with the Eurocodes. It forms a comprehensive pocket reference guide for professional and student structural engineers, especially those taking the IStructE Part 3 exam. With stripped-down basic materi

Aluminium Structural Design - Federico M. Mazzolani 2014-05-04

The subject of the book is the design of aluminium alloys structures. The subject is treated from different points of view, like technology, theory, codification and applications. Aluminium alloys are successfully employed in the transportation industry; A parallel trend has been observed in the last decades in civil engineering structures, where aluminium alloys compete with steel (long-span roofing, bridges, hydraulic structures, offshore superstructures). This volume collects the lectures of out-standing international

experts, who are all involved in the codification activity of Eurocode 9 on Aluminium Structural Design. It illustrates, with particular reference to the fields of transportation and civil engineering, the basic design principles from the material properties and the technological aspects of their application, to the evaluation of the resistance of the structural elements (member and plates) under static, dynamic and fatigue loading conditions.

Design of Structural Elements - C. Arya 2002-11-21

The second edition of this popular textbook provides, in a single volume, an introduction to the design of structural elements in concrete, steel, timber and masonry. Part One explains the principles and philosophy of design, basic techniques, and structural concepts. Designing in accordance with British Standard codes of practice follows in Part Two, with numerous diagrams and worked examples. In Part Three the Eurocodes are introduced, and their main differences to British codes are explained. Comprehensively revised and updated to comply with the latest British Standards and Eurocodes, the second edition also features a new section on the use and design of composite materials. With an accompanying solutions manual available online, Design of Structural Elements is the ideal course text for students of civil and structural engineering, on degree, HNC and HND courses.

Manual for the Design of Concrete Building Structures to Eurocode 2 - 2006-01-01

Reinforced Concrete Design to Eurocode 2 - Giandomenico Toniolo 2017-05-09

This textbook describes the basic mechanical features of concrete and explains the main resistant mechanisms activated in the reinforced concrete structures and foundations when subjected to centred and eccentric axial force, bending moment, shear, torsion and prestressing. It presents a complete set of limit-state design criteria of the modern theory of RC incorporating principles and rules of the final version of the official Eurocode 2. This textbook examines methodological more than notional aspects of the presented topics, focusing on the verifications of assumptions, the rigorousness of the analysis and the consequent degree of reliability of results. Each chapter develops an organic topic, which is eventually illustrated by examples in each final paragraph containing the relative numerical applications. These practical end-of-chapter appendices and intuitive flow-charts ensure a smooth learning experience. The book stands as an ideal learning resource for students of structural design and analysis courses in civil engineering, building construction and architecture, as well as a valuable reference for concrete structural design professionals in practice.

Manual for the Design of Steelwork Building Structures to EC3 - 2000

Time-Dependent Behaviour of Concrete Structures - Raymond Ian Gilbert 2010-09-15

Serviceability failures of concrete structures involving excessive cracking or deflection are relatively common, even in structures that comply with code requirements. This is often as a result of a failure to adequately account for the time-dependent deformations of concrete in the design of the structure. The serviceability provisions embodied in codes of practice are relatively crude and, in some situations, unreliable and do not adequately model the in-service behaviour of structures. In particular, they fail to adequately account for the effects of creep and shrinkage of the concrete. Design for serviceability is complicated by the non-linear and inelastic behaviour of concrete at service loads. Providing detailed information, this book helps engineers to rationally predict the time-varying deformation of concrete structures under typical in-service conditions. It gives analytical methods to help anticipate time-dependent cracking, the gradual change in tension stiffening with time, creep induced deformations and the load independent strains caused by shrinkage and temperature changes. The calculation procedures are illustrated with many worked examples. A vital guide for practising engineers and advanced students of structural engineering on the design of concrete structures for serviceability and provides a penetrating insight into the time-dependent behaviour of reinforced and prestressed concrete structures.

Steel Designers' Manual - Steel Construction Institute (Great Britain) 2012-02-20

"This classic manual on structural steelwork design was first published in 1955, since when it has sold many tens of thousands of copies worldwide. For the seventh edition all chapters have been comprehensively reviewed, revised to ensure they reflect current approaches and best practice, and

brought in to compliance with EN 1993: Design of Steel Structures. The Steel Designers' Manual continues to provide, in one volume, the essential knowledge for the design of conventional steelwork. Key Features: Fully revised to comply with the new EUROCODE standards Packed full of tables, analytical design information and worked examples Contributors number leading academics, consulting engineers and fabricators 'A must for anyone involved in steel design' - Journal of Constructional Steel Research"--

Seismic Design of Concrete Buildings to Eurocode 8 - Michael N. Fardis 2015-02-04

An Original Source of Expressions and Tools for the Design of Concrete Elements with Eurocode Seismic design of concrete buildings needs to be performed to a strong and recognized standard. Eurocode 8 was introduced recently in the 30 countries belonging to CEN, as part of the suite of Structural Eurocodes, and it represents the first European Standard for seismic design. It is also having an impact on seismic design standards in countries outside Europe and will be applied there for the design of important facilities. This book: Contains the fundamentals of earthquakes and their effects at the ground level, as these are affected by local soil conditions, with particular reference to EC8 rules Provides guidance for the conceptual design of concrete buildings and their foundations for earthquake resistance Overviews and exemplifies linear and nonlinear seismic analysis of concrete buildings for design to EC8 and their modelling Presents the application of the design verifications, member dimensioning and detailing rules of EC8 for concrete buildings, including their foundations Serves as a commentary of the parts of EC8 relevant to concrete buildings and their foundations, supplementing them and explaining their proper application Seismic Design of Concrete Buildings to Eurocode 8 suits graduate or advanced undergraduate students, instructors running courses on seismic design and practicing engineers interested in the sound application of EC8 to concrete buildings. Alongside simpler examples for analysis and detailed design, it includes a comprehensive case study of the conceptual design, analysis and detailed design of a realistic building with six stories above grade and two basements, with a complete structural system of walls and frames. Homework problems are given at the end of some of the chapters.

Structural Design for Fire Safety - Andrew H. Buchanan 2017-01-30

Structural Design for Fire Safety, 2nd edition Andrew H. Buchanan, University of Canterbury, New Zealand Anthony K. Abu, University of Canterbury, New Zealand A practical and informative guide to structural fire engineering This book presents a comprehensive overview of structural fire engineering. An update on the first edition, the book describes new developments in the past ten years, including advanced calculation methods and computer programs. Further additions include: calculation methods for membrane action in floor slabs exposed to fires; a chapter on composite steel-concrete construction; and case studies of structural collapses. The book begins with an introduction to fire safety in buildings, from fire growth and development to the devastating effects of severe fires on large building structures. Methods of calculating fire severity and fire resistance are then described in detail, together with both simple and advanced methods for assessing and designing for structural fire safety in buildings constructed from structural steel, reinforced concrete, or structural timber. Structural Design for Fire Safety, 2nd edition bridges the information gap between fire safety engineers, structural engineers and building officials, and it will be useful for many others including architects, code writers, building designers, and firefighters. Key features:

- Updated references to current research, as well as new end-of-chapter questions and worked examples.
- Authors experienced in teaching, researching, and applying structural fire engineering in real buildings.

A focus on basic principles rather than specific building code requirements, for an international audience. An essential guide for structural engineers who wish to improve their understanding of buildings exposed to severe fires and an ideal textbook for introductory or advanced courses in structural fire engineering.

Structural Foundations Manual for Low-Rise Buildings - Michael Atkinson 2020-11-25

This book provides practical and buildable solutions for the design of foundations for housing and other low-rise buildings, especially those on abnormal or poor ground. A wealth of expert information and advice is brought together dealing with the key aspects a designer must consider in order to achieve effective and economic foundation designs. This second edition of Structural Foundations Manual for Low-Rise Buildings has been completely updated in line with the new government guidelines on contaminated land and brown-field sites. The book includes well-detailed design solutions and calculations, actual case histories, illustrations, design charts and check lists, making it a user-friendly reference for contractors, structural

engineers, architects and students who have to deal with foundations for low-rise buildings on sites with difficult ground conditions.

Manual for Detailing Reinforced Concrete Structures to EC2 - Jose Calavera 2011-11-09

Detailing is an essential part of the design process. This thorough reference guide for the design of reinforced concrete structures is largely based on Eurocode 2 (EC2), plus other European design standards such as Eurocode 8 (EC8), where appropriate. With its large format, double-page spread layout, this book systematically details 213 structural

The British National Bibliography - Arthur James Wells 2009

Design of Structural Elements - Chanakya Arya 2009-05-07

This third edition of a popular textbook is a concise single-volume introduction to the design of structural elements in concrete, steel, timber, masonry, and composites. It provides design principles and guidance in line with both British Standards and Eurocodes, current as of late 2007. Topics discussed include the philosophy of design, basic structural concepts, and material properties. After an introduction and overview of structural design, the book is conveniently divided into sections based on British Standards and Eurocodes.

Design of Steel Structures - Luís Simões da Silva 2012-01-09

This book introduces the fundamental design concept of Eurocode 3 for current steel structures in building construction, and their practical application. Following a discussion of the basis of design, including the principles of reliability management and the limit state approach, the material standards and their use are detailed. The fundamentals of structural analysis and modeling are presented, followed by the design criteria and approaches for various types of structural members. The theoretical basis and checking procedures are closely tied to the Eurocode requirements. The following chapters expand on the principles and applications of elastic and plastic design, each exemplified by the step-by-step design calculation of a braced steel-framed building and an industrial building, respectively. Besides providing the necessary theoretical concepts for a good understanding, this manual intends to be a supporting tool for the use of practicing engineers. In order of this purpose, throughout the book, numerous worked examples are provided, concerning the analysis of steel structures and the design of elements under several types of actions. These examples will facilitate the acceptance of the code and provide for a smooth transition from earlier national codes to the Eurocode.

Reinforced Concrete Design to Eurocodes - Prab Bhatt 2014-02-28

This established and popular textbook has now been extensively rewritten and expanded in line with the current Eurocodes. It presents the principles of the design of concrete elements and also the design of complete structures, and provides practical illustrations of the theory. It explains the background to the Eurocode rules and goes beyond the c

Structural Elements Design Manual: Working with Eurocodes - Trevor Draycott 2009-10-26

Structural Elements Design Manual: Working With Eurocodes is the structural engineers 'companion volume' to the four Eurocodes on the structural use of timber, concrete, masonry and steelwork. For the student at higher technician or first degree level it provides a single source of information on the behaviour and practical design of the main elements of the building structure. With plenty of worked examples and diagrams, it is a useful textbook not only for students of structural and civil engineering, but also for those on courses in related subjects such as architecture, building and surveying whose studies include the design of structural elements. Trevor Draycott the former Buildings and Standards Manager with Lancashire County Council's Department of Property Services has 50 years experience in the construction industry. For 20 years he was also an associate lecturer in structures at Lancashire Polytechnic, now the University of Central Lancashire in Preston. For many years he served on the Institution of Structural Engineers, North West Branch, professional interview panel and the North West regional committee of the Timber Research and Development Association. Peter Bullman worked for Felix J Samuely and Partners, Taylor Woodrow Construction and Building Design Partnership before joining Bolton Institute, now the University of Bolton, as a lecturer in structural engineering. He has taught structural design on higher technician, degree and postgraduate courses, and has run courses to prepare engineers for the IStructE

Chartered Membership examination.

Manual for Detailing Reinforced Concrete Structures to EC2 - José Calavera 2011-11-09

Detailing is an essential part of the design process. This thorough reference guide for the design of reinforced concrete structures is largely based on Eurocode 2 (EC2), plus other European design standards such as Eurocode 8 (EC8), where appropriate. With its large format, double-page spread layout, this book systematically details 213 structural elements. These have been carefully selected by José Calavera to cover relevant elements used in practice. Each element is presented with a whole-page annotated model along with commentary and recommendations for the element concerned, as well as a summary of the appropriate Eurocode legislation with reference to further standards and literature. The book also comes with a CD-ROM containing AutoCAD files of all of the models, which can be directly developed and adapted for specific designs. Its accessible and practical format makes the book an ideal handbook for professional engineers working with reinforced concrete, as well as for students who are training to become designers of concrete structures.

Design of Structural Steelwork - William McKenzie 1998-11-11

This text aims to develop an understanding of Limit State Design as applied to structural steelwork. The use of the relevant codes of practice, in particular BS 5950: Part 1, is explained and demonstrated in numerous worked examples and illustrations. The treatment is both extensive and comprehensive, including a selection of design examples which are presented in a format typical of that used in a design office in order to encourage students to adopt a methodical and rational approach in preparing structural calculations.

Structural Timber Design to Eurocode 5 - Jack Porteous 2008-05-23

Structural Timber Design to Eurocode 5 is a comprehensive book which provides practising engineers and specialist contractors with detailed information and in-depth guidance on the design of timber structures based on the common rules and rules for buildings in Eurocode 5 - Part 1-1. It will also be of interest to undergraduate and postgraduate students of civil and structural engineering. The book provides a step-by-step approach to the design of all of the most commonly used timber elements and connections using solid timber, glued laminated timber or wood based structural products. It features numerous detailed worked examples, and incorporates the requirements of the UK National Annex. It covers the strength and stiffness properties of timber and its reconstituted and engineered products; the key requirements of Eurocode 0, Eurocode 1 and Eurocode 5 - Part 1-1; the design of beams and columns of solid timber, glued laminated, composite and thin-webbed sections; the lateral stability requirements of timber structures; and the design of mechanical connections subjected to lateral and/or axial forces as well as rigid and semi-rigid connections subjected to a moment. The Authors Jack Porteous is a consulting engineer specialising in timber engineering. He is a Chartered Engineer, Fellow of the Institution of Civil Engineers and Member of the Institution of Structural Engineers. He is a visiting scholar and lecturer in timber engineering at Napier University. Abdy Kermani is the Professor of Timber Engineering and R&D consultant at Napier University. He is a Chartered Engineer, Member of the Institution of Structural Engineers and Fellow of the Institute of Wood Science with over 20 years' experience in civil and structural engineering research, teaching and practice. The authors have led several research and development programmes on the structural use of timber and its reconstituted products. Their research work in timber engineering is internationally recognised and published widely. Also of Interest Timber Designers' Manual Third Edition E.C. Ozelton & J.A. Baird Paperback 978 14051 4671 5 Cover design by Garth Stewart

Structural Engineer's Pocket Book British Standards Edition - Fiona Cobb 2020-12-17

The Structural Engineer's Pocket Book British Standards Edition is the only compilation of all tables, data, facts and formulae needed for scheme design to British Standards by structural engineers in a handy-sized format. Bringing together data from many sources into a compact, affordable pocketbook, it saves valuable time spent tracking down information needed regularly. This second edition is a companion to the more recent Eurocode third edition. Although small in size, this book contains the facts and figures needed for preliminary design whether in the office or on-site. Based on UK conventions, it is split into 14 sections including geotechnics, structural steel, reinforced concrete, masonry and timber, and includes a section on sustainability covering general concepts, materials, actions and targets for structural engineers.

Design of Structural Elements - William McKenzie 2013-04-19

This classic and well-respected textbook provides the most comprehensive coverage of the process of design for structural elements and features a wealth of practical problems and real-world examples. It introduces readers to the design requirements of the Eurocodes for the four most commonly used materials in construction: concrete, steel, timber and masonry, and illustrates the concepts and calculations necessary for the design of the most frequently encountered basic structural elements. It includes a detailed section on structural analysis. The scope of this text is wide, and its numerous examples, problems and easy-to-follow diagrams make it an ideal course text. This user-friendly text is an indispensable resource both for undergraduates in all years of civil engineering and structural engineering, in construction and architecture, and for practising engineers looking to refresh their knowledge.

Practical Design of Reinforced Concrete Buildings - Syed Mehdi Ashraf 2017

This book will provide comprehensive, practical knowledge for the design of reinforced concrete buildings. The approach will be unique as it will focus primarily on the design of various structures and structural elements as done in design offices with an emphasis on compliance with the relevant codes. It will give an overview of the integrated design of buildings and explain the design of various elements such as slabs, beams, columns, walls, and footings. It will be written in easy-to-use format and refer to all the latest relevant American codes of practice (IBC and ASCE) at every stage. The book will compel users to think critically to enhance their intuitive design capabilities.

Design of Plated Structures - Darko Beg 2012-01-09

The main aim of this book is to provide practical advice to designers of plated structures for correct and efficient application of EN 1993-1-5 design rules. In chapter 1 the purpose, the scope and the structure of the book is explained. In chapter 2 a rather detailed and commented overview of EN 1993-1-5 design rules is given following the structure of the standard. Shear lag effect as well as plate buckling problems due to direct stresses, shear forces, transverse forces and interactions of these effects are covered. This chapter also includes a reduced stress method and a finite element analysis approach to plate buckling problems. A large number of design examples illustrate the proper application of individual design rules. Chapter 3 and 4 bring two complete design examples on a crane runway and a box-girder bridge.

European Building Construction Illustrated - Francis D. K. Ching 2014-08-11

The first European edition of Francis DK Ching's classic visual guide to the basics of building construction. For nearly four decades, the US publication Building Construction Illustrated has offered an outstanding introduction to the principles of building construction. This new European edition focuses on the construction methods most commonly used in Europe, referring largely to UK Building Regulations overlaid with British and European, while applying Francis DK Ching's clear graphic signature style. It provides a coherent and essential primer, presenting all of the basic concepts underlying building construction and equipping readers with useful guidelines for approaching any new materials or techniques they may encounter. European Building Construction Illustrated provides a comprehensive and lucid presentation of everything from foundations and floor systems to finish work. Laying out the material and structural choices available, it provides a full understanding of how these choices affect a building's form and dimensions. Complete with more than 1000 illustrations, the book moves through each of the key stages of the design process, from site selection to building components, mechanical systems and finishes. Illustrated throughout with clear and accurate drawings that effectively communicate construction processes and materials. Provides an overview of the mainstream construction methods used in Europe. Based around the UK regulatory framework, the book refers to European level regulations where appropriate. References leading environmental assessment methods of BREEAM and LEED, while outlining the Passive House Standard. Includes emerging construction methods driven by the sustainability agenda, such as structural insulated panels and insulating concrete formwork. Features a chapter dedicated to construction in the Middle East, focusing on the Gulf States.

Steel Building Design - M. E. Brettell 2008

Structural Elements Design Manual - Trevor Draycott 2014-05-12

Structural Elements Design Manual is a manual on the practical design of structural elements that comprise a building structure, namely, timber, concrete, masonry, and steel. Practical guidance on the design of structural elements is provided in accordance with the appropriate British Standard or Code of Practice. Plenty of worked examples are included. Comprised of five chapters, this book begins with an overview of interrelated matters with which the structural engineer is concerned in the design of a building or similar structure. The British Standards and Codes of Practice are also considered, along with loading, structural mechanics, and theory of bending. The discussion then turns to timber, concrete, masonry, and steel elements, with emphasis on safety considerations and material properties. This monograph should prove useful not only to students of structural and civil engineering, but also to those studying for qualifications in architecture, building, and surveying who need to understand the design of structural elements.

Structural Elements Design Manual - Trevor Draycott 2009

Trevor Draycott and Peter Bullman cover the behaviour and practical design of the main building elements - timber, concrete, masonry and steelwork.

Proceedings of the Institution of Civil Engineers - 2009

Steel Designers' Manual - Buick Davison 2008-04-15

This classic manual on structural steel design provides a major source of reference for structural engineers and fabricators working with the leading construction material. Based fully on the concepts of limit state design, the manual has been revised to take account of the 2000 revisions to BS 5950. It also looks at new developments in structural steel, environmental issues and outlines the main requirements of the Eurocode on structural steel.

Examples in Structural Analysis - William M.C. McKenzie 2013-12-20

This second edition of Examples in Structural Analysis uses a step-by-step approach and provides an extensive collection of fully worked and graded examples for a wide variety of structural analysis problems. It presents detailed information on the methods of solutions to problems and the results obtained. Also given within the text is a summary of each of the principal analysis techniques inherent in the design process and where appropriate, an explanation of the mathematical models used. The text emphasises that software should only be used if designers have the appropriate knowledge and understanding of the mathematical modelling, assumptions and limitations inherent in the programs they use. It establishes the use of hand-methods for obtaining approximate solutions during preliminary design and an independent check on the answers obtained from computer analyses. What's New in the Second Edition: New chapters cover the development and use of influence lines for determinate and indeterminate beams, as well as the use of approximate analyses for indeterminate pin-jointed and rigid-jointed plane-frames. This edition includes a rewrite of the chapter on buckling instability, expands on beams and on the use of the unit load method applied to singly redundant frames. The x-y-z co-ordinate system and symbols have been modified to reflect the conventions adopted in the structural Eurocodes. William M. C. McKenzie is also the author of six design textbooks relating to the British Standards and the Eurocodes for structural design and one structural analysis textbook. As a member of the Institute of Physics, he is both a chartered engineer and a chartered physicist and has been involved in consultancy, research and teaching for more than 35 years.

Cast Iron: Physical and Engineering Properties - H. T. Angus 2013-10-22

Cast Iron: Physical and Engineering Properties describes the importance of iron and its properties, as well as the process of casting in the different fields of engineering. The book covers topics such as the mechanical, physical, and electrical properties of iron and the different tests under which it is subjected; the effects of heat treatment on gray cast iron; and the resistance of cast iron to heat and stress. Topics also include internal casting stresses; cast iron beams and columns; and the application of the specifications for cast iron to design. The text is recommended for metallurgists and engineers who are interested in cast iron, its properties, and its uses in construction.