

Design Of Wood Structures 6th Edition Solutions Manual

A complete, accessible introduction to structural masonry fundamentals. This practical volume provides a thorough grounding in the design of masonry structures for buildings --with clear and easy-to-grasp coverage of basic materials, construction systems, building codes, industry standards, and simple computations for structural elements of commonly used forms of masonry. Well-written and carefully organized, the book:

- * Includes all principal types of masonry materials: brick, stone, fired clay, concrete block, glass block, and more
- * Contains information on unreinforced, reinforced, and veneered construction
- * Examines key design criteria: dead loads, live loads, lateral loads, structural planning, building code requirements, and performance measurement
- * Features helpful study aids --including exercises and solutions, glossary of terms, bibliography, and detailed appendices.

Requiring only minimal prior experience in engineering analysis or design, *Simplified Design of Masonry Structures* is ideal for self-study or classroom use. It is an essential reference for architecture and engineering students and professionals.

No architect's education would be complete without a basic understanding of how structures respond to the action of forces and how these forces affect the performance of various building material (wood, steel, concrete, etc.). In continuous publication for over 60 years, this standard guide to structural design with wood has now been updated to include current design practices, standards, and consideration of new wood products. Now covering the LRFD method of structural design in addition to the ASD method, expanded treatment of wood products besides sawn lumber, and with more examples and exercise problems, this edition stands as a valuable resource that no architect or builder should be without. The Parker/Ambrose Series of Simplified Design Guides has been providing students with simple, concise solutions to common structural and environmental design problems for more than seven decades.

This book is full of examples of what designers can do once they learn the basics. This book presents an overview of the structural design process for designers with limited backgrounds in engineering analysis and mathematics. Included is information on structural systems and materials, the development of the general form and basic elements of a specific system, and construction plans and details. Included are examples of eleven different structural systems, each with an explanation of the design and a sample set of construction plans and details.

Solid, Accessible Coverage of the Basics of Wood Structure Design This invaluable guide provides a complete and practical introduction to the design of wood structures for buildings. Written to be easily understood by readers with limited experience in engineering mechanics, structural analysis, or advanced mathematics, the book includes: A comprehensive review of structural properties, including density, elasticity, defects, lumber gradings, and use

classification A straightforward discussion of design methods and criteria—stress, strength, design values, loading, bracing, and more Extensive material on wood sections, from beam functions, behavior, and design to wood decks and wood columns Information based on current industry standards and construction practices Many building design examples, plus helpful study aids and references Equally suited to classroom use or independent study, Simplified Design of Wood Structures, Fifth Edition is a superb resource for aspiring and practicing architects and engineers. With the encroachment of the Internet into nearly all aspects of work and life, it seems as though information is everywhere. However, there is information and then there is correct, appropriate, and timely information. While we might love being able to turn to Wikipedia® for encyclopedia-like information or search Google® for the thousands of links on a topic, engineers need the best information, information that is evaluated, up-to-date, and complete. Accurate, vetted information is necessary when building new skyscrapers or developing new prosthetics for returning military veterans While the award-winning first edition of Using the Engineering Literature used a roadmap analogy, we now need a three-dimensional analysis reflecting the complex and dynamic nature of research in the information age. Using the Engineering Literature, Second Edition provides a guide to the wide range of resources available in all fields of engineering. This second edition has been thoroughly revised and features new sections on nanotechnology as well as green engineering. The information age has greatly impacted the way engineers find information. Engineers have an effect, directly and indirectly, on almost all aspects of our lives, and it is vital that they find the right information at the right time to create better products and processes. Comprehensive and up to date, with expert chapter authors, this book fills a gap in the literature, providing critical information in a user-friendly format.

An indispensable resource for anyone wanting to create, maintain, improve, understand, or use the diverse information resources within a sci-tech library. • Over 80 screenshots of electronic information resource tools designed for the engineer and scientist; page reproductions from print sources and illustrations from scholarly journal articles and monographs are also included • Each chapter concludes with a comprehensive list of additional resources for further research • Approximately 30 discipline-specific subject bibliographies in the appendix section act as indispensable guides for developing library collections, as well as for compiling introductory textbooks appropriate for library science students • Included pathfinders provide expert guides for targeted online research • Corresponding instructor exercises are available at the publisher's website

THE DEFINITIVE DESIGN AND CONSTRUCTION INDUSTRY SOURCE FOR BUILDING WITH WOOD— NOW IN A THOROUGHLY UPDATED SIXTH EDITION Since its first publication in 1966, Timber Construction Manual has become the essential design and construction industry resource for building with structural glued laminated timber. Timber

Construction Manual, Sixth Edition provides architects, engineers, contractors, educators, and related professionals with up-to-date information on engineered timber construction, including the latest codes, construction methods, and authoritative design recommendations. Content has been reorganized to flow easily from information on wood properties and applications to specific design considerations. Based on the most reliable technical data available, this edition has been thoroughly revised to encompass:

- A thorough update of all recommended design criteria for timber structural members, systems, and connections
- An expanded collection of real-world design examples supported with detailed schematic drawings
- New material on the role of glulam in sustainable building practices
- The latest design and construction codes, including the 2012 National Design Specification for Wood Construction, AITC 117-2010, and examples featuring ASCE 7-10 and IBC 2009
- More cross-referencing to other available AITC standards on the AITC website

Since 1952, the AMERICAN INSTITUTE OF TIMBER CONSTRUCTION has been the national technical trade association of the structural glued laminated timber industry. AITC-recommended building and design codes for wood-based structures are considered authoritative in the United States building industry.

Over 140 experts, 14 countries, and 89 chapters are represented in the second edition of The Bridge Engineering Handbook. This extensive collection highlights bridge engineering specimens from around the world, contains detailed information on bridge engineering, and thoroughly explains the concepts and practical applications surrounding the subject. Published in five books: Fundamentals, Superstructure Design, Substructure Design, Seismic Design, and Construction and Maintenance, this new edition provides numerous worked-out examples that give readers step-by-step design procedures, includes contributions by leading experts from around the world in their respective areas of bridge engineering, contains 26 completely new chapters, and updates most other chapters. It offers design concepts, specifications, and practice, as well as the various types of bridges. The text includes over 2,500 tables, charts, illustrations and photos. The book covers new, innovative, and traditional methods and practices, explores rehabilitation, retrofit, and maintenance, and examines seismic design, and building materials. The first book, Fundamentals contains 22 chapters, and covers aesthetics, planning, design specifications, structural modeling, fatigue and fracture. What's New in the Second Edition:

- Covers the basic concepts, theory and special topics of bridge engineering
- Includes seven new chapters: Finite Element Method, High Speed Railway Bridges, Concrete Design, Steel Design, Structural Performance Indicators for Bridges, High Performance Steel, and Design and Damage Evaluation Methods for Reinforced Concrete Beams under Impact Loading
- Provides substantial updates to existing chapters, including Conceptual Design, Bridge Aesthetics: Achieving Structural Art in Bridge Design, and Application of Fiber Reinforced Polymers in Bridges

This text is an ideal reference for practicing bridge engineers and consultants (design, construction, maintenance), and can also be used as a reference for students in bridge engineering courses.

Uses a simple and practical approach to cover typical components and design of ordinary, uncomplicated systems for building lighting basics. Both natural lighting and electrical lighting are included and both the Commission Internationale d'Eclairage and IESNA methods are introduced for daylighting calculations. An expanded version of the point method is shown that covers all orientations instead of only orthogonal relationships. Along with terms and fixtures commonly used in the profession, each chapter includes numerous examples, ending

with exercises and study questions that enable readers to better understand the material.

A where-would-you-be-without-it handbook covering every single important step in building design and construction, now updated to include key changes in design and construction practices. Surveys materials, structures, soil mechanics and foundations, building types, hardware, insulation, acoustics, plumbing, and more--all the material that will help architects, engineers, contractors, and others work better, faster, and smarter. Includes new design specifications; the latest developments in seismic and wind design criteria; new building systems and material; updated building codes throughout; NFPA requirements; and new wood material and codes.

Reliability-based design (RBD) procedures for engineered structures are being developed and quickly gaining acceptance by code agencies throughout the world. Numerous organizations are involved in the development of national or regional codes without the benefit of interchange of ideas and methodologies. Harmonization and coordination of these activities is absolutely essential if the ever-increasing international commerce is to flourish. This NATO Advanced Research Workshop (ARW) was organized to bring together, for the first time, experts on RBD and related subjects from various countries to assess the current knowledge and recommend new developments. Further, due to their unique nature and great economic significance in most parts of the world, special emphasis was placed on engineered wood structures. For example, in North America more wood products are used in construction than all other materials (steel, concrete, brick, etc.) combined. However, the wood industry segment, historically, receives less attention and smaller financial support for new developments than other construction materials. RBD developments are being conducted in similar, but largely independent, Europe, North America, New Zealand and Australia. Experts from these regions were brought together to exchange information on current work, propose new developments and to provide means of international coordination. Thus, this ARW provided an opportunity to advance the cause of RBD of engineered wood structures.

Francis D. K. Ching
A.I.A. Institute Honors for Collaborative Achievement
Cooper-Hewitt National Design Award Special Jury Commendation
1975
LEED
2016 CSI
2018
ADA
12
CSI MasterFormat
LEED
16
THE BUILDING SITE THE BUILDING FOUNDATION SYSTEMS FLOOR SYSTEMS WALL SYSTEMS ROOF

SYSTEMS ?????? MOISTURE & THERMAL PROTECTION ??? DOORS & WINDOWS ???? SPECIAL CONSTRUCTION ?????? FINISH WORK ??????? MECHANICAL & ELECTRICAL SYSTEMS ???? NOTES ON MATERIALS

Get the updated industry standard for a new age of construction! For more than fifty years, Olin's Construction has been the cornerstone reference in the field for architecture and construction professionals and students. This new edition is an invaluable resource that will provide in-depth coverage for decades to come. You'll find the most up-to-date principles, materials, methods, codes, and standards used in the design and construction of contemporary concrete, steel, masonry, and wood buildings for residential, commercial, and institutional use. Organized by the principles of the MasterFormat® 2010 Update, this edition: Covers sitework; concrete, steel, masonry, wood, and plastic materials; sound control; mechanical and electrical systems; doors and windows; finishes; industry standards; codes; barrier-free design; and much more Offers extensive coverage of the metric system of measurement Includes more than 1,800 illustrations, 175 new to this edition and more than 200 others, revised to bring them up to date Provides vital descriptive information on how to design buildings, detail components, specify materials and products, and avoid common pitfalls Contains new information on sustainability, expanded coverage of the principles of construction management and the place of construction managers in the construction process, and construction of long span structures in concrete, steel, and wood The most comprehensive text on the subject, Olin's Construction covers not only the materials and methods of building construction, but also building systems and equipment, utilities, properties of materials, and current design and contracting requirements. Whether you're a builder, designer, contractor, or manager, join the readers who have relied on the principles of Olin's Construction for more than two generations to master construction operations.

Wood is the major building material in residential structures. This work reflects the 2006 Building Code, NDS standards, and ASCE load standard. It is aimed at civil engineers and architects, and students.

Uma das obras de maior relevância do mestre Francis Ching, que, com suas extraordinárias ilustrações, trata dos fundamentos das técnicas de construção. A quinta edição mantém ainda o compromisso com a sustentabilidade, incorporando princípios que reduzem a dependência de sistemas de controle ambiental e a energia por eles consumida. A Complete Guide to Solving Lateral Load Path Problems The Analysis of Irregular Shaped Structures: Diaphragms and Shear Walls explains how to calculate the forces to be transferred across multiple discontinuities and reflect the design requirements on construction documents. Step-by-step examples offer progressive coverage, from basic to very advanced illustrations of load paths in complicated structures. The book is based on the 2009 International Building Code, ASCE/SEI 7-05, the 2005 Edition of the National Design Specification for Wood Construction, and the 2008 Edition of the Special Design Provisions for Wind and Seismic (SDPWS-08). COVERAGE INCLUDES: Code sections and analysis Diaphragm basics Diaphragms with end horizontal offsets Diaphragms with intermediate offsets Diaphragms with openings Open front and cantilever diaphragms Diaphragms with vertical offsets Complex diaphragms with combined openings and offsets Standard shear walls Shear walls with openings Discontinuous shear walls Horizontally offset shear walls The portal frame Rigid moment-resisting frame walls--the frame method of analysis

The comprehensive reference on the basics of structural analysis and design, now updated with the latest considerations of building technology Structural design is an essential element of the building process, yet one of the most difficult to learn. While structural engineers do the detailed consulting work for a building project, architects need to know enough structural theory and analysis to design a building. Most texts on structures for architects focus narrowly on the mathematical analysis of isolated structural components, yet Building Structures looks at the general concepts with selected computations to understand the role of the structure as a building subsystem—without the complicated mathematics. New to this edition is a complete discussion of the LRF method of design, supplemented by the ASD method, in addition to: The fundamentals of structural analysis and design for architects A glossary, exercise problems, and a companion website and instructor's manual Material ideally suited for preparing for the ARE exam Profusely illustrated throughout with drawings and photographs, and including new case studies, Building Structures, Third Edition is perfect for nonengineers to understand and visualize structural design.

A practical overview of what to consider when designing a building's heating, cooling, ventilating and humidifying systems along with their space, power, control and other requirements. Includes the latest concepts, applications, basic design problems and their solutions. Packed with examples to facilitate understanding.

Simplified Design of Wood Structures John Wiley & Sons

This fourth edition of the text incorporates changes and additions to the major codes concerning the use of wood in building design. The focus of the new sections of the text will be on Allowable Stress Design (ASD).

345 Solved Seismic Design Problems is for your customers who want extra practice for the tough seismic section of the California civil PE exam. Every exam subject is represented, and the problems are written in the same format and with the same level of difficulty as the actual test. Detailed solutions are provided. This book also is a useful source of information for architects preparing for the Architect Registration Exam (ARE). This edition references the 1994 Uniform Building Code, the version currently tested on the exam.

THE #1 REFERENCE ON BUILDING CONSTRUCTION—UPDATED FROM THE GROUND UP Edward Allen and Joseph Iano's Fundamentals of Building Construction has been the go-to reference for thousands of professionals and students of architecture, engineering, and construction technology for over thirty years. The materials and methods described in this new Seventh Edition have been thoroughly updated to reflect the latest advancements in the industry. Carefully selected and logically arranged topics—ranging from basic building methods to the principles of structure and enclosure—help readers gain a working knowledge of the field in an enjoyable, easy-to-understand manner. All major construction systems, including light wood frame, mass timber, masonry, steel frame, light gauge steel, and reinforced concrete construction, are addressed. Now in its Seventh Edition,

Fundamentals of Building Construction contains substantial revisions and updates. New illustrations and photographs reflect the latest practices and developments in the industry. Revised chapters address exterior wall systems and high-performance buildings, an updated and comprehensive discussion of building enclosure science, evolving tools for assessing environmental and health impacts of building materials, and more. New and exciting developments in mass timber construction are also included. This Seventh Edition includes: 125 new or updated illustrations and photographs, as well as 40 new photorealistic renderings The latest in construction project delivery methods, construction scheduling, and trends in information technology affecting building design and construction Updated discussion of the latest LEED and Living Building Challenge sustainability standards along with expanded coverage of new methods for assessing the environmental impacts of materials and buildings Expanded coverage of mass timber materials, fire resistance of mass timber, and the design and construction of tall wood buildings Revised end-of-chapter sections, including references, websites, key terminology, review questions, and exercises Fully-updated collection of best-in-class ancillary materials: PowerPoint lecture slides, Instructor's Manual, Test Bank, Interactive Exercises, and more Companion book, Exercises in Building Construction, available in print and eBook format For the nuts and bolts on building construction practices and materials, Fundamentals of Building Construction: Materials and Methods, 7th Edition lays the foundation that every architect and construction professional needs to build a successful career.

A structural design book with a code-connected focus, Principles of Structural Design: Wood, Steel, and Concrete, Second Edition introduces the principles and practices of structural design. This book covers the section properties, design values, reference tables, and other design aids required to accomplish complete structural designs in accordance with the codes. What's New in This Edition: Reflects all the latest revised codes and standards The text material has been thoroughly reviewed and expanded, including a new chapter on concrete design Suitable for combined design coursework in wood, steel, and concrete Includes all essential material—the section properties, design values, reference tables, and other design aids required to accomplish complete structural designs according to the codes This book uses the LRFD basis of design for all structures This updated edition has been expanded into 17 chapters and is divided into four parts. The first section of the book explains load and resistance factor design, and explores a unified approach to design. The second section covers wood design and specifically examines wood structures. It highlights sawn lumber, glued laminated timber, and structural composite/veneer lumber. The third section examines steel structures. It addresses the AISC 2010 revisions to the sectional properties of certain structural elements, as well as changes in the procedure to design the slip-critical connection. The final section includes a chapter on T beams and introduces doubly reinforced beams. Principles of Structural Design: Wood, Steel, and Concrete, Second Edition was designed to be used for joint coursework in wood, steel, and concrete design.

Why another textbook on the design of wood sets this book apart is its inclusion of "struc structures? In many years of teaching structural tural planning. " Most textbooks show only the design in wood, the authors have used virtually selection of member proportions or number of every textbook available, as well as using only connectors in a joint to satisfy a given, com a code and no

textbook at all. The textbooks pletely defined situation. This book, on the used have included both the old and the rela other hand, shows the thinking process needed tively modem; some have been fairly good, but to determine whether or not the member is re in our opinion each has deficiencies. Some quired in the first place. Following this, the books have too few solved examples. Others spacing and continuity of the member are de omit important material or have an arrange cided, its loads are determined, and finally its ment making them difficult to use as formal shape and size are selected. teaching tools. By writing this book, we intend We believe that illustrating structural plan to correct such deficiencies. ning as well as detailed member and connec The prime purpose of this book is to serve as tion design is of considerable value in helping a classroom text for the engineering or archi the student make the transition from the often tecture student.

Mechanical Design of Machine Components, Second Edition strikes a balance between theory and application, and prepares students for more advanced study or professional practice. It outlines the basic concepts in the design and analysis of machine elements using traditional methods, based on the principles of mechanics of materials. The text combine 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.

Organized into three sections, it begins with the phenomena of fire followed by the principles of design by which one develops a defense against fire disaster in buildings. Lastly, it deals with the hardware of fire control, communication and extinguishment. A thorough analysis of building code criteria regarding fire safety is included. Each chapter features study aids along with questions and answers.

The Business and Problem-Solving Skills Needed for Success in Your Engineering Career! The Structural Engineer's Professional

Training Manual offers a solid foundation in the real-world business and problem-solving skills needed in the engineering workplace. Filled with illustrations and practical “punch-list” summaries, this career-building guide provides an introduction to the practice and business of structural and civil engineering, including lots of detailed advice on developing competence and communicating ideas. Comprehensive and easy-to-understand, The Structural Engineer's Professional Training Manual features:

- Recommendations for successfully training engineers who are new to the field
- Methods for bringing together ideas from a variety of sources to find workable solutions to difficult problems
- Information on the real-world behaviors of building materials
- Guidance on licensing, liability, regulations, and employment
- Techniques for responsibly estimating design time and cost
- Tips on communicating design ideas effectively
- Strategies for working successfully as part of a team

Inside This Skills-Building Engineering Resource • The Dynamics of Training • The World of Professional Engineering • The Business of Structural Engineering • Building Projects • Bridge Projects • Building Your Own Competence • Communicating Your Designs • Engineering Mechanics • Soil Mechanics • Understanding the Behavior of Concrete • Understanding the Behavior of Masonry Construction • Understanding the Behavior of Structural Steel • Understanding the Behavior of Wood Framing

THE DEFINITIVE WOOD STRUCTURE DESIGN GUIDE -- FULLY UPDATED Thoroughly revised to incorporate the latest codes and standards, the seventh edition of this comprehensive resource leads you through the complete design of a wood structure following the same sequence of materials and elements used in actual design. Detailed equations, clear illustrations, and practical design examples are featured throughout the text. **THIS NEW EDITION:** Conforms to the 2012 International Building Code (IBC) Addresses the new 2012 National Design Specification for Wood Construction (NDS) Contains dual-format Allowable Stress Design/Load and Resistance Factor Design (ASD/LRFD) specifications, equations, and problems Includes ASCE/SEI 7-10 load provisions **DESIGN OF WOOD STRUCTURES--ASD/LRFD, SEVENTH EDITION, COVERS:** Wood buildings and design criteria Design loads Behavior of structures under loads and forces Properties of wood and lumber grades Structural glued laminated timber Beam design Axial forces and combined loading Wood structural panels Diaphragms Shearwalls Wood connections Nailed connections Bolts, lag bolts, and other connectors Connection details and hardware Diaphragm-to-shearwall anchorage Advanced topics in lateral force design

The classic visual guide to the basics of building construction, now with a 3D digital building model for interactive learning For over three decades, Building Construction Illustrated has offered an outstanding introduction to the principles of building construction. This new edition of the revered classic remains as relevant as ever, providing the latest information in Francis D.K. Ching's signature style. Its rich and comprehensive approach clearly presents all of the basic concepts underlying building construction. New to this edition are digital enhancements delivered as an online companion to the print edition and also embedded in e-book editions. Features include a 3D model showing how building components come together in a final project. Illustrated throughout with clear and accurate drawings that present the state of the art in construction processes and materials Updated and revised to include the latest knowledge on sustainability, incorporation of building systems, and use of new materials Contains archetypal drawings that offer clear inspiration for designers and drafters Reflects the 2012 International Building Codes and 2012 LEED system This new edition of Building Construction Illustrated remains as relevant as ever, with the most current knowledge presented in a rich and comprehensive manner that does not disappoint.

Organized for self-paced study, this user-friendly book can easily be understood by designers with no engineering training. Provides excellent

guidance concerning how design can be used to control noise, privacy and room acoustics within buildings. Contains a summary of the basic types of sound problems that occur in buildings.

Contains practical, easy-to-read explanations regarding the issues and problems encountered in designing for these natural disasters. This edition includes important code updates from the 1994 Uniform Building Code as well as more detailed information on engineering computations and lateral force construction. Increased attention is paid to the relationship between building design and seismic response. Features a discussion of the latest CAD products for lateral design work. Serves as a major reference for anyone preparing for seismic and wind design test sections of State Board Examinations (for licensing purposes).

The time-saving resource every architect needs The Architect's Studio Companion is a robust, user-friendly resource that keeps important information at your fingertips throughout the design process. It includes guidelines for the design of structure, environmental systems, parking, accessibility, and more. This new sixth edition has been fully updated with the latest model building codes for the U.S. and Canada, extensive new information on heating and cooling systems for buildings, and new structural systems, all in a form that facilitates rapid preliminary design. More than just a reference, this book is a true companion that no practicing architect or student should be without. This book provides quick access to guidelines for systems that affect the form and spatial organization of buildings and allows this information to be incorporated into the earliest stages of building design. With it you can: Select, configure, and size structural systems Plan for building heating and cooling Incorporate passive systems and daylighting into your design Design for parking and meet code-related life-safety and accessibility requirements Relying on straightforward diagrams and clear written explanations, the designer can lay out the fundamental systems of a building in a matter of minutes—without getting hung up on complicated technical concepts. By introducing building systems into the early stages of design, the need for later revisions or redesign is reduced, and projects stay on time and on budget. The Architect's Studio Companion is the time-saving tool that helps you bring it all together from the beginning.

This revised, fully updated second edition covers the analysis, design, and construction of reinforced concrete structures from a real-world perspective. It examines different reinforced concrete elements such as slabs, beams, columns, foundations, basement and retaining walls and pre-stressed concrete incorporating the most up-to-date edition of the American Concrete Institute Code (ACI 318-14) requirements for the design of concrete structures. It includes a chapter on metric system in reinforced concrete design and construction. A new chapter on the design of formworks has been added which is of great value to students in the construction engineering programs along with practicing engineers and architects. This second edition also includes a new appendix with color images illustrating various concrete construction practices, and well-designed buildings. The ACI 318-14 constitutes the most extensive reorganization of the code in the past 40 years. References to the various sections of the ACI 318-14 are provided throughout the book to facilitate its use by students and professionals. Aimed at architecture, building construction, and undergraduate engineering students, the scope of concepts in this volume emphasize simplified and practical methods in the analysis and design of reinforced concrete. This is distinct from advanced, graduate engineering texts, where treatment of the subject centers around the theoretical and mathematical aspects of design. As in the first edition, this book adopts a step-by-step approach to solving analysis and design problems in reinforced concrete. Using a highly graphical and interactive approach in its use of detailed images and self-experimentation exercises, "Concrete Structures, Second Edition," is tailored to the most practical questions and fundamental concepts of design of structures in reinforced concrete. The text stands as an ideal learning resource for civil engineering, building construction, and architecture students as well as a valuable reference for concrete structural design professionals in practice.

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