

## Reinforced Concrete Wall Design Basics Wi Land Water

*Encouraging creative uses of reinforced concrete. Principles of Reinforced Concrete Design draws a clear distinction between fundamentals and professional consensus. This text presents a mixture of fundamentals along with practical methods. It provides the fundamental concepts required for designing reinforced concrete (RC) structures, emphasizing principles based on mechanics, experience, and experimentation, while encouraging practitioners to consult their local building codes. The book presents design choices that fall in line with the boundaries defined by professional consensus (building codes), and provides reference material outlining the design criteria contained in building codes. It includes applications for both building and bridge structural design, and it is applicable worldwide, as it is not dependent upon any particular codes. Contains concise coverage that can be taught in one semester Underscores the fundamental principles of behavior Provides students with an understanding of the principles upon which codes are based Assists in navigating the labyrinth of ever-changing codes Fosters an inherent understanding of design The text also provides a brief history of reinforced concrete While the use of using reinforced concrete in building construction has been attributed to its fire resistance, its increase in popularity was also due to the creativity of engineers who kept extending its limits of application. Along with height achievement, reinforced concrete gained momentum by providing convenience, plasticity, and low-cost economic appeal. Principles of Reinforced Concrete Design provides undergraduate students with the fundamentals of mechanics and direct observation, as well as the concepts required to design reinforced concrete (RC) structures, and applies to both building and bridge structural design.*

*By using the Working Stress Design system described in the text combined with other information in this book, a builder with a good knowledge of basic arithmetic and a pocket calculator can determine the sizing and placement of steel rebar within small concrete buildings, such as earth-sheltered homes. The book covers the design, assembly, and formwork required by concrete beams, elevated slabs, walls, footings, short columns, mat foundations, and soffits. Many of these components are impossible to build using plain (unreinforced) concrete.*

*For courses in architecture and civil engineering. Reinforced Concrete: Mechanics and Design uses the theory of reinforced concrete design to teach students the basic scientific and artistic principles of civil engineering. The text takes a topic often introduced at the advanced level and makes it accessible to all audiences by building a foundation with core engineering concepts. The 7th Edition is up-to-date with the latest Building Code for Structural Concrete, giving students access to accurate information that can be applied outside of the classroom. Students are able to apply complicated engineering concepts to real world scenarios with in-text examples and practice problems in each chapter. With explanatory features throughout, the 7th Edition makes the reinforced concrete design a theory all engineers can learn from. The full text downloaded to your computer With eBooks you can: search for key concepts, words and phrases make highlights and notes as you study share your notes with friends eBooks are downloaded to your computer and accessible either offline through the Bookshelf (available as a free download), available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit: The eBooks products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed.*

Basic Reinforced Concrete Design: More advanced design

Proceedings of the International Seminar Held at the University of Dundee, Scotland, UK on 5-6 September, 2002

Reinforced Concrete: Mechanics and Design, Global Edition

Elastic and Creep

Basics of Retaining Wall Design, 10th Edition

ADVANCED REINFORCED CONCRETE DESIGN

Excavation is an important segment of foundation engineering (e.g., in the construction of the foundations or basements of high-rise buildings, underground oil tanks, or subways). However, the excavation knowledge introduced in most books on foundation engineering is too simple to handle actual excavation analysis and design. Moreover, with economic development and urbanization, excavations go deeper and are larger in scale. These conditions require elaborate analysis, design methods and construction technologies. This book is aimed at both theoretical explanation and practical application. From basic to advanced, this book attempts to achieve theoretical rigor and consistency. Each chapter is followed by a problem set so that the book can be readily taught at senior undergraduate and graduate levels. The solution to the problems at the end of the chapters can be found on the website (http://www.ct.tust.edu.tw/au/). On the other hand, the analysis methods introduced in the book can be used in actual analysis and design as they contain the most up-to-date knowledge. Therefore, this book is suitable for teachers who teach foundation engineering and/or deep excavation courses and engineers who are engaged in excavation analysis and design.

Durability failures in reinforced concrete structures are wasteful of resources and energy. The introduction to practice of European Standard EN 206-1 represents a significant shift in emphasis on the need to explicitly consider each potential durability threat when specifying and producing concrete. Fundamentals of Durable Reinforced Concrete presents the fundamental aspects of concrete durability including reinforcement corrosion, carbonation, chloride ingress, alkali-aggregate reaction, freeze/thaw damage, sulphate attack, chemical attack, cracking, abrasion and weathering. The background to the durability exposure classes in EN 206-1 is also explained. Future directions in performance-based specifications and mathematical modelling of degradation are presented. This book will be of particular interest to specifiers applying the principles of the new European Standard EN 206-1 for the first time, to postgraduate researchers in mathematical modelling of degradation mechanisms, to undergraduates of engineering, architecture and building technology, and students of advanced concrete technology who require a concise source of reference on concrete durability.

Note from the publisher: Now in its sixth edition, this bestselling reference focuses on the basic materials and methods used in building construction. Emphasizing common construction systems such as light wood frame, masonry bearing wall, steel frame, and reinforced concrete construction, the new edition includes new information on building materials properties; the latest on "pre-engineered" building components and sustainability issues; and reflects the latest building codes and standards. It also features an expanded series of case studies along with more axonometric detail drawings and revised photographs for a thoroughly illustrated approach.

Reinforced Concrete Construction for Small Projects

Composite Materials in Concrete Construction

Evaluation of Earthquake Damaged Concrete and Masonry Wall Buildings

Building Code Requirements for Structural Concrete (ACI 318-05) and Commentary (ACI 318R-05)

Fundamentals of Reinforced Concrete

Fundamentals of Building Construction

Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations contains the papers presented at the International Conference on Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations (GFAC 2019, Saint Petersburg, Russia, 6-8 February 2019). The contributions present the latest research findings, developments, and applications in the areas of geotechnics, soil mechanics, foundations, geological engineering and share experiences in the design of complex geotechnical objects, and are grouped in 8 sections:
• Analytical decisions and numerical modeling for foundations;
• Design and construction in geologically hazardous conditions;
• Methods for surveying the features of dispersed, rocky soils and structurally unstable soils;
• Exploration, territory improvement and reconstruction in conditions of compact urban planning and enterprises, etc.
• Construction, reconstruction and exploitation of infrastructure facilities in different soil conditions;
• R&D support and quality control of new materials, design and technology solutions in constructing bases, foundations, underground and surface constructions;
• Condition survey and accident evolution analysis in construction;
• Up-to-date monitoring techniques in building construction and exploitation. Geotechnical Fundamentals and Applications in Construction. New Materials, Structures, Technologies and Calculations collects the state-of-the-art in geotechnology and construction, and will be of interest to academia and professionals in geotechnics, soil mechanics, foundation engineering and geological engineering.

This specification is formulated according to "Law of the People's Republic of China on Protecting Against and Mitigating Earthquake Disasters" with view to implementing the guideline of prevention-based seismic protection and disaster reduction operation, relieving the seismic damage of highway engineering structure, ensuring people's life and property safety and reducing the economic losses. This specification is applicable to seismic design of various classes of highways and structures. Highway engineering structure shall be subjected to seismic design. The highway engineering structure, in case special seismic safety evaluation is not required for the engineering site, shall be subject to seismic fortification according to the ground motion parameter specified in "Seismic Ground Motion Parameter Zonation Map of China" (GB 18306). In the area where ground motion peak acceleration is greater than or equal to 0.40g, special study shall be carried out for the seismic design of highway engineering structure. The site of independent oversized bridge engineering and independent super-long tunnel engineering and seismic risk site of expressway and Class I highway with ground motion peak acceleration larger than or equal to 0.40g shall be subject to seismic safety evaluation. For the area with ground motion peak acceleration larger than or equal to 0.20g, highway engineering structures having important effect on the earthquake relief, economy and national defense or those difficult to be restored after damage may be determine as lifeline engineering. Seismic fortification criterion of lifeline engineering may be improved properly after approved by the state. Mature and reliable new technology, material, equipment and process shall be adopted for the seismic design of highway engineering structure. Seismic design of highway engineering structure shall not only meet those specified in this specification, but also meet those specified in the current relevant national and professional standards. JTG B02-2013 Specification of Seismic Design for Highway Engineering (English Version)

Introductory technical guidance for civil and structural engineers interested in seismic design of buildings. Here is what is discussed:
1. GENERAL
2. GROUND MOTION
3. SITE HAZARDS OTHER THAN GROUND MOTION
4. BEHAVIOR OF STRUCTURES
5. FUNDAMENTALS OF SEISMIC DESIGN.

Design of Reinforced Concrete Foundations

New Materials, Structures, Technologies and Calculations

Unified Theory of Reinforced Concrete

An Introduction to Basic Concepts for Seismic Design of Buildings

A Design Guide for Earth Retaining Structures

Basic Earthquake Engineering

*CONTENTS: Part I:Working Stress Method 1.Introduction 2.Theory of reinforced beams and Slabs 3.Shear and bond 4.Torsion 5.Doubly reinforced beams 6. T and L-Beams 7.Design of beams and Slabs 8.Design of stair cases 9.Reinforced brick and hollow tile roofs 10.Two-way slabs 11.Circular slabs 12.Flat slabs 13.Axially loaded columns 14.Combined direct and bending stresses 15.Continuous and isolated footings 16.Combined footings 17.Pile foundations 18.Retaining Walls Part 11: Water Tanks 19.Domes 20.Beams curved in plan 21.Water tanks-1 Simple cases 22.Water tanks-11 Circular & INTZE Tanks 23.Water tanks-111: Rectangular tanks 24.Water tanks-IV: Underground tanks Part 111:Miscellaneous Structures 25.Reinforced concrete pipes 26.Bankers and silos 27.Chimneys 28.Portal frames 29.Building frames Part IV:Concrete Bridges 30. Aqueducts and box culverts 31.Concrete Bridges Part V: Limit State Design 32.Design concepts 33.Singly reinforced section 34.Doubly reinforced sections 35.T and L-Beams 36.Shear bond and torsion 37.Design of beams and slabs 38.Axially loaded columns 39.Columns with Uniaxial and Biaxial bending 40.Design of stair cases 41.Two way slabs 42.Circular slabs 43.Yield Line theory and design of slabs 44.Foundations Part IV:Prestressed concrete and Miscellaneous Topics 45.Prestressed concrete 46.Shrinkage and creep 47.Form-Work 48.Tests for cement and concrete*

*THE #1 REFERENCE ON BUILDING CONSTRUCTION—UPDATED FROM THE GROUND UP Edward Allen and Joseph Leno'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 enclosures—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.*

*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.*

Materials and Methods

Practical Design of Reinforced Concrete Buildings

Fundamentals of Durable Reinforced Concrete

A Complete Guide for Builders

Reinforced Concrete Fundamentals

Design Theory and Examples, Fourth Edition

Intended as a companion volume to the author's Limit State Design of Reinforced Concrete (published by Prentice-Hall of India), the Second Edition of this comprehensive and systematically organized text builds on the strength of the first edition, continuing to provide a clear and masterly exposition of the fundamentals of the theory of concrete design. The text meets the twin objective of catering to the needs of the postgraduate students of Civil Engineering and the needs of the practising civil engineers as it focuses also on the practices followed by the industry. This text, along with Limit State Design, covers the entire design practice of revised Code IS456 (2000). In addition, it analyzes the procedures specified in many other BIS codes such as those on winds, earthquakes, and ductile detailing. What's New to This Edition Chapter 18 on Earthquake Forces and Structural Response of framed buildings has been completely revised and updated so as to conform to the latest I.S. Codes 1893 (2002) entitled Criteria for Earthquake Resistant Design of Structures (Part I - Fifth Revision). Chapters 19 and 21 which too deal with earthquake design have been revised. A Summary of elementary design of reinforced concrete members is added as Appendix. Valuable tables and charts are presented to help students and practising designers to arrive at a speedy estimate of the steel requirements in slabs, beams, columns and footings of ordinary buildings.

Concrete can be a pretty unforgiving building material. Ask any of the builders who come into your store and they'll usually have a horror story to share about a concrete job gone awry and how much it cost them.Basic Concrete Engineering for Builders may be one of the only books available today that explains how to avoid common concrete problems with foundations, slabs, columns, and more. It gives step-by-step explanations on how to plan, mix, reinforce and pour concrete. It also shows how to design concrete for buildings -- the calculations, the tables, and the rules of thumb, with examples and insight into the working knowledge that every builder needs.Most builders don't end up specifying requirements for structural concrete work. That's the job of an engineer. But most builders working with concrete need a good general understanding of the concepts behind structural concrete engineering. They need to know about: surveying, foundation layout, formwork, form materials, forming problems, aggregates, admixtures, reinforcing, mixing and placing requirements, pumping, creating joints, curing, and testing the concrete's strength. They need to know basic design for walls, columns, slabs, slabs-on-grade, one- and two-way slabs, elevated slabs, equipment pads, pre-cast walls, retaining walls, basement walls, crib walls, reinforcing beams and girders, driveways, sidewalks, curbs, catch basins, manholes and other miscellaneous structures, as well as how to calculate the reinforcement needed for these structural components. You'll find all this information in this book and on the software included in the back.Includes Free Engineering Software: A CD-ROM is included with easy-to-useengineering software for designing simple concrete elements for beams, slabs, and columns.

This multi-contributor book provides comprehensive coverage of earthquake engineering problems, an overview of traditional methods, and the scientific background on recent developments. It discusses computer methods on structural analysis and provides access to the recent design methodologies and serves as a reference for both professionals and res

FUNDAMENTALS OF REINFORCED CONCRETE DESIGN

Simplified Design of Masonry Structures

Basics of Retaining Wall Design 11th Edition

Basic Reinforced Concrete Design

11th International Symposium and IIW International Conference on Tubular Structures

Fundamentals of Deep Excavations

*Design of Reinforced Concrete, 10th Edition* by Jack McCormac and Russell Brown, introduces the fundamentals of reinforced concrete design in a clear and comprehensive manner and grounded in the basic principles of mechanics of solids. Students build on their understanding of basic mechanics to learn new concepts such as compressive stress and strain in concrete, while applying current ACI Code.

*This book on Reinforced Concrete has been comprehensively revised with a view to make it more suitable for the updated syllabus of various Technical Institutes and Engineering Colleges of different Universities.*

*This book provides senior undergraduate students, master students and structural engineers who do not have a background in the field with core knowledge of structural earthquake engineering that will be invaluable in their professional lives. The basics of seismotectonics, including the causes, magnitude, and intensity of earthquakes, are first explained. Then the book introduces basic elements of seismic hazard analysis and presents the concept of a seismic hazard map for use in seismic design. Subsequent chapters cover key aspects of the response analysis of simple systems and building structures to earthquake ground motions, design spectrum, the adoption of seismic analysis procedures in seismic design codes, seismic design principles and seismic design of reinforced concrete structures. Helpful worked examples on seismic analysis of linear, nonlinear and base isolated buildings, earthquake-resistant design of frame and frame-shear wall systems are included, most of which can be solved using a hand calculator.*

Studies in Atomic Defense Engineering

Tubular Structures XI

Studies in Atomic Defense Engineering

New developments in non linear analysis methods basic papers from the working party

JTG B02-2013 English Translation of Chinese Standard

Concrete is a global material that underwrites commercial wellbeing and social development. There is no substitute that can be used on the same engineering scale and its sustainability, exploitation and further development are imperatives to creating and maintaing a healthy economy and environment worldwide. The pressure for change and improvement of performance is relentless and necessary. Concrete must keep evolving to satisfy the increasing demands of all its users.

This fourth edition of a bestselling textbook has been extensively rewritten and expanded in line with the current Eurocodes. It presents the principles of the design of concrete elements and of complete structures, with practical illustrations of the theory. It explains the background to the Eurocode rules and goes beyond the core topics to cover the design of foundations, retaining walls, and water retaining structures. The text includes more than sixty worked out design examples and more than six hundred diagrams, plans, and charts. It suitable for civil engineering courses and is a useful reference for practising engineers.

Design guide for earth retaining structures. Updated and expanded new 10th edition covers nearly every type of earth retaining structure: cantilevered, counterfort, restrained (basement walls), gravity, segmental, sheet pile, sodier pile, and others. Current building code requirements are covered including IBC '12, MSJC '11, ACI 318-11, ASCE 7-10, CBC '13, and AASHTO. Topics include types of retaining structures, basic soil mechanics, design of concrete and masonry walls, lateral earth pressures, seismic design, surcharges, pile and pier foundations, and swimming pool walls.

Fourteen varied design examples. Comprehensive Appendix. Glossary of terminology. 246 pages. 8-1/2x11 paperback.

Reinforced Concrete Design to Eurocode 2

Basic Procedures Manual

Reinforced Concrete Design to Eurocodes

Earthquake Engineering

Design of Concrete Structures

From Seismology to Analysis and Design

Reinforced Concrete structures are subjected to a complex variety of stresses and strains. The four basic actions are bending, axial load, shear, and torsion. Presently, there is no single comprehensive theory for reinforced concrete structural behavior that addresses all of these basic actions and their interactions. Furthermore, there is little consistency among countries around the world in their building codes, especially in the specifications for shear and torsion. Unified Theory of Reinforced Concrete addresses this serious problem by integrating available information, embraces and accounts for all four basic actions and their combinations. The theory is presented in a systematic manner, elucidating its five component models from a pedagogical and historical perspective while emphasizing the fundamental principles of equilibrium, compatibility, and the constitutive laws of materials. The significance of relationships between models and their intrinsic consistencies are emphasized. This theory can serve as the foundation on which to build a universal design code that can be adopted internationally. In addition to frames, the Unified Theory of Reinforced Concrete will be an important reference for all engineers involved in the design of concrete structures. The book can also serve well as a text for a graduate course in structural engineering.

Through four editions, Phil M. Ferguson's Reinforced Concrete Fundamentals has become a recognized classic, known for its clarity and thoroughness. There is, in fact, no other reinforced concrete text available as simple for both beginners and experienced designers. Now a fifth edition, reflecting the 1983 and 1986 ACI Code revisions, brings Reinforced Concrete Fundamentals completely up to date while retaining Ferguson's popular approach. Changes include a return, for most examples, to the use of English units to reflect current practice, reorganization of the text to emphasize the design process, and a new emphasis on the design of slender columns in order to emphasize the secondary deflection patterns, and in the treatment of splices, reinforcement development and hooks in order to reflect the basic behavior and failure patterns rather than just arbitrary code rules. The coverage of seismic design, interaction curves for eccentrically loaded columns, and the design of reinforced concrete members and assemblages with an emphasis on the "flow" of the design process. Throughout, behavior at all load stages is illustrated by figures and photos. A set of working appendices delivers a summary treatment of service load analysis for flexure, and design tables and curves. Maintaining the high standards of its popular predecessors, Reinforced Concrete Fundamentals, Fifth Edition makes up an ideal reference, refresher, and desktop resource for civil engineers. This new edition includes a new chapter on the design of reinforced concrete members and assemblages with an emphasis on the "flow" of the design process. Throughout, behavior at all load stages is illustrated by figures and photos. A set of working appendices delivers a summary treatment of service load analysis for flexure, and design tables and curves. Maintaining the high standards of its popular predecessors, Reinforced Concrete Fundamentals, Fifth Edition makes up an ideal reference, refresher, and desktop resource for civil engineers. Designed primarily as a text for undergraduate students of Civil Engineering for their first course on Limit State Design of Reinforced Concrete, this compact and well-organized text covers all the fundamental concepts in a highly readable style. The text conforms to the provision of the latest revision of Indian Code of Practice for Plain and Reinforced Concrete, IS : 456 (2000). First six chapters deal with fundamentals of limit states design of reinforced concrete. The objective of last two chapters (including design aids in appendix) is to initiate the readers in the behaviour of the various structural components under loads, and development of fundamental expressions for analysis and design. It also presents efficient and systematic procedures for solving design problems. In addition to the discussion of basis for design calculations, a large number of worked-out practical design examples based on the current design practices have been included to illustrate the basic principles of reinforced concrete design.Besides students, practising engineers would find this text extremely useful.

JTG B02-2013 Specification of Seismic Design for Highway Engineering (English Version)

A Design Guide for Earth Retaining Structures

Basic Concrete Engineering for Builders

Design of Reinforced Concrete, 10th Edition

Geotechnics Fundamentals and Applications in Construction

From Engineering Seismology to Performance-Based Engineering

This topical book contains the latest scientific and engineering developments in the field of tubular steel structures, as presented at the "11th International Symposium and IIW International Conference on Tubular Structures". The International Symposium on Tubular Structures (ISTS) has a long-standing reputation for being the principal showcase for manufactured tubing and the prime international forum for discussion of research, developments and applications in this field. Various key and emerging subjects in the field of hollow structural sections are covered, such as: novel applications and case studies, static and fatigue behaviour of connections/joints, concrete-filled and composite tubular members, earthquake resistance, specification and code developments, material properties and structural reliability, impact resistance and brittle fracture, fire resistance, casting and fabrication innovations. Research and development issues presented in this book are applicable to buildings, bridges, offshore structures, entertainment rides, cranes, towers and various mechanical and agricultural equipment. This book is thus a pertinent reference source for architects, civil and mechanical engineers, designers, steel fabricators and contractors, manufacturers of hollow sections or related construction products, trade associations involved with tubing, owners or developers of tubular structures, steel specification committees, academics and research students. The conference presentations herein include two keynote lectures (the International Institute of Welding Houdremont Lecture and the ISTS Kurobane Lecture), plus finalists in the CIDECT Student Papers Competition. The 11th International Symposium and IIW International Conference on Tubular Structures – ISTS11 – took place in Qu é bec City, Canada from August 31 to September 2, 2006. 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 rigorouness 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.

A complete, accessible introduction to structural masonryfundamentals. This practical volume provides a thorough grounding in the designof masonry structures for buildings --with clear and easy-to-graspcoverage of basic materials, construction systems, building codes,industry standards, and simple computations for structural elementsof commonly used forms of masonry. Well-written and carefullyorganized, 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 veneeredconstruction
\* Examines key design criteria: dead loads, live loads, lateralloads, structural planning, building code requirements, andperformance measurement
\* Features helpful study aids --including exercises and solutions,glossary of terms, bibliography, and detailed appendices. Requiring only minimal prior experience in engineering analysis ordesign, Simplified Design of Masonry Structures is ideal forself-study or classroom use. It is an essential reference forarchitecture and engineering students and professionals.

Comprehensive Rcc.Designs

Principles of Reinforced Concrete Design

Fundamentals of Sustainability in Civil Engineering

*This introduction to the principles of concrete mechanics and design focuses on the fundamentals – from very basic, elementary to the very complicated concepts and features an easy-to-follow yet thorough step-by-step design methodology. \*emphasizes basic principles of the mechanics aspects of concrete design and avoids explanations of the detail requirements which can be found in the ACI Code and Commentary. \*surveys modern design philosophies and features an amply illustrated tour of the world of concrete. \*carefully lays out the various design procedures step-by-step – for flexural design, shear design, column design, etc. prepares and encourages students to program procedures for computer solution. Instructors, at their own discretion, can suggest follow-up coding assignment. \*goes beyond the traditional description of materials to provide substantive coverage of concrete, current concrete technology, and the durability of materials – especially since many engineers will find themselves repairing, rehabilitating, and strengthening existing structures, rather than designing new ones. \*explores the interrelationship between design and analysis – a typical problem area for students, especially in relation to statically indeterminate structures, reviews some structural analysis methods for continuous beams and frames, especially those methods that designers will find useful for checking purposes – e.g., moment distribution, explains how the behavior of structures can be controlled through design decisions. \*includes sections on basic plate theory and yield line theory as supplements to the common design procedures of the ACI Code. \*contains important optional topics that students can master through self-study after understanding the basics such as torsion, slab design, footings, and retaining walls. \*includes many easy-to-follow examples worked out in great detail. \*contains a large number of illustrations. \*features very carefully designed problem sets that require students to think and appreciate various physical aspects of what they are doing.*

*\*contains a comprehensive glossary of terms common in concrete engineering and the construction industry. Definitions are based largely on The Cement and Concrete Terminology Report of ACI Committee 116.*

*This book provides a foundation to understand the development of sustainability in civil engineering, and tools to address the three pillars of sustainability: economics, environment, and society. It includes case studies in the five major areas of civil engineering: environmental, structural, geotechnical, transportation, and construction management. This second edition is updated throughout and adds new chapters on construction engineering as well as an overview of the most common certification programs that revolve around environmental sustainability. Features: Updated throughout and adds two entirely new chapters Presents a review of the most common certification programs in sustainability Offers a blend of numerical and writing-based problems, as well as numerous application-based examples that utilize concepts found on the Fundamentals of Engineering (FE) exam Includes several practical case studies Offers a solution manual for instructors Fundamentals of Sustainability in Civil Engineering is intended for upper-level civil engineering sustainability courses. A unique feature is that concepts found in the Fundamentals of Engineering (FE) exam were targeted to help senior-level students refresh and prepare.*

*UPDATED AND EXPANDED NEW 11TH EDITION. Design guide for earth retaining structures covers nearly every type of earth retaining structure: cantilevered, counterfort, restrained (basement walls), gravity, segmental, sheet pile, soldier pile, and others. Current building code requirements are referenced throughout. Topics include types of retaining structures, basic soil mechanics, design of concrete and masonry walls, lateral earth pressures, seismic design, surcharges, pile and pier foundations, Gabion walls and swimming pool walls. Fourteen varied design examples. Comprehensive Appendix with Glossary of terminology. 257 pages. 8-1/2x11 paperback.*