

Residential Building Codes Illustrated A Guide To Understanding The 2009 International Residential Code

Portion of edition taken from page 4 of cover.

A guide to understanding the International Building Code that uses detailed diagrams to explain the criteria for code development and the reasons for code provisions.

The classic visual guide to the basics of building construction, now with the most current information For nearly 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 and equips readers with useful guidelines for approaching virtually any new materials or techniques they may encounter. 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 1,000 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 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 Archetypal drawings offer clear inspiration for designers and drafters Reflects the most current building codes and CSI Master Format numbering scheme With its comprehensive and lucid presentation of everything from foundations and floor systems to finish work, Building Construction Illustrated, Fourth Edition equips students and professionals in all areas of architecture and construction with useful guidelines for approaching virtually any new materials or techniques they may encounter in building planning, design, and construction.

Now more than ever, architects need an interpretive guide to understand how the building code affects the early design of specific projects. This easy-to-use, illustrative guide is part of a new series covering building codes based on the International Building Code for 2006. This book presents the complex code issues inherent to elementary and secondary school design in a clear, easily understandable format.

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

An easy-to-use illustrated guide to building codes for residential structures As the construction industry moves to a single set of international building codes, architects and construction professionals need an interpretive guide to understand how the building code affects the early design of specific projects. This newest addition to Wiley's series of focused guides familiarizes code users with the 2009 International Residential Code® (IRC) as it applies to residential buildings. The book provides architects, engineers, and other related building professionals with an understanding of how the International Residential Code was developed, and how it is likely to be interpreted when applied to the design and construction of residential buildings. • User-friendly visual format that makes finding the information you need quick and easy • The book's organization follows the 2009 International Residential Code itself • Nearly 900 illustrations, by architectural illustrator Steven Juroszek in the style of noted illustrator and author Frank Ching, visualize and explain the codes • Text written by experienced experts who have been instrumental in gaining acceptance for the new unified building code This book is an essential companion to the IRC for both emerging practitioners and experienced practitioners needing to understand the new IRC.

The bestselling step-by-step framing guide—updated and expanded to meet 2018 codes and standards Complete Book of Framing, Second Edition—Updated and Expanded is a comprehensive guide to rough carpentry and framing, written by an expert with over forty years of framing experience. This book guides the reader through step-by-step framing instructions for floors, walls, roofs, door and window openings, and stairs. Hundreds of full-color illustrations and photos enable novice and professional framers to understand and master framing techniques. This Updated and Expanded Second Edition includes the framing techniques of the 2018 International Building Code (IBC), International Residential Code (IRC), and updated OSHA rules. It also includes new coverage of today's electric tools, wind and earthquake framing, medical and physiological factors of framing, and a revised safety chapter. Builders will find information on nailing patterns, overall layout, engineered wood patterns, and green framing. In addition, the book offers readers tools and techniques for preparing for a job and managing a team. This Second Edition—Updated and Expanded: Includes hundreds of full-color illustrations depicting step-by-step framing techniques Offers guidance on today's electric tools and structural enhancements for natural disasters Features a revised chapter on safety to reflect the medical and physiological factors of framing Meets the framing techniques of the 2018 International Building Code (IBC), International Residential Code (IRC), and Occupational Safety and Health Administration (OSHA) standards Complete Book of Framing: An Illustrated Guide for Residential Construction, Second Edition—Updated and Expanded is an excellent resource for framers, carpenters, and contractors of all experience levels. Framer-friendly tips throughout the book show how to complete framing tasks efficiently and effectively.

Download Free Residential Building Codes Illustrated A Guide To Understanding The 2009 International Residential Code

Here are 32 notable examples of multi-family housing from many countries, selected for their importance as prototypes. Designed by such masters as Frank Lloyd Wright, Le Corbusier, Mies van der Rohe, and Alvar Aalto, the buildings are illustrated with photographs, site plans, floor plans, elevations, and striking axonometric drawings.

Presents a facsimile edition of the Washington Haggadah contained in the Library of Congress, an illuminated manuscript created by Joel ben Simeon in the fifteenth century.

Designed to emphasize the central life-safety principles that underscore building codes throughout the United States, this updated sixth edition of the essential Code Check guide provides all the information that builders need to avoid the most common code violations. Featuring laminated pages and a spiral-bound spine that lies flat, this reliable reference reflects the most up-to-date changes in the current International Residential Code. Covering foundations, framing, plumbing, wiring, interior and exterior walls, fireplaces, and chimneys, the flipbook is also cross-referenced to the Uniform Plumbing Code, the Uniform Mechanical Code, and the National Electrical Code. This tough-as-nails new edition belongs on every job site.

Stay informed of the latest updates to the International Building Code with the leading visual reference In the newly revised Seventh Edition of Building Codes Illustrated: A Guide to Understanding the 2021 International Building Code, architectural drawing expert Francis D.K. Ching and renowned architect Steven R. Winkel deliver a beautifully illustrated and intuitively written handbook for the 2021 International Building Code (IBC). The authors provide brand new chapters on plumbing fixture counts, elevators, special construction, and existing buildings while updating the remainder of the material to align with recent changes to the IBC. Easy to navigate and perfect as a quick-reference guide to the IBC, Building Codes Illustrated is a valuable visual resource for emerging professionals. The book also includes: Thorough introductions to navigating the Code, use and occupancy, special uses and occupancies, and building heights and areas Full explorations of the types of construction, fire resistive construction, interior finishes, fire-protection systems, and means of egress Practical discussions of accessibility, interior environment, exterior walls, roof assemblies, and structural provisions In-depth examinations of special inspections and tests, soils and foundations, building materials and systems, and elevators Perfect for students of architecture, interior design, construction, and engineering, the latest edition of Building Codes Illustrated is also ideal for professionals in these fields seeking an up-to-date reference on the 2021 International Building Code.

Modern Residential Construction Practices provides easy-to-read, comprehensive and highly illustrated coverage of residential building construction practices that conform to industry standards in the United States and Canada. Each chapter provides complete descriptions, real-world practices, realistic examples, three-dimensional (3D) illustrations, and related tests and problems. Chapters cover practices related to every construction phase including: planning, funding, permitting, codes, inspections, site planning, excavation, foundations and flatwork, floors, walls, roofs, finish work and cabinetry; heating, ventilating, and air conditioning (HVAC); electrical, and plumbing. The book is organized in a format that is consistent with the process used to take residential construction projects from preliminary concept through all phases of residential building construction. An ideal textbook for secondary and college level construction programs, the book is packed with useful features such as problems that challenge students to identify materials and practices, along with research and document information about construction materials and practices, useful summaries, key notes, a detailed glossary, and online materials for both students and educators.

Answers to common code questions at your fingertips This handy jobsite tool will become as indispensable to you as your cell phone, tape measure, and level. This pocket-friendly companion to the International Residential Code discusses the impact of 2018 code changes to fire-resistant walls separating townhouses, emergency escape and rescue openings in basements, safety glazing adjacent to doors and bottom stair landings, and more. 2018 Home Builders' Jobsite Codes also updates requirements for smoke alarms and carbon monoxide alarms, and introduces helpful wood deck provisions. It includes more than 100 detailed illustrations and useful tables and discussion, among other areas, of - foundations - fire safety - energy efficiency - mechanical, plumbing and electrical systems - safe and healthy living environments 2018 Home Builders' Jobsite Codes is meant to be of practical use on the jobsite, not as a substitute for the IRC.

A comprehensive visual companion to the International Building Code®?2018 edition Thoroughly updated to address the provisions of the ICC's 2018 International Building Code®, this fully-illustrated guide makes it easy to understand and apply the most critical code provisions. Covering both fire- and life-safety and structural provisions, this practical resource contains hundreds of user-friendly diagrams designed to clarify the application and intent of the IBC. The 2018 International Building Code® Illustrated Handbook provides all the information needed to get construction jobs done right and achieve compliance. An invaluable companion to the 2018 IBC, it is a must have resource for building officials, architects, engineers, contractors and all building construction professionals. Get complete application details on: •Scope and Administration •Definitions •Use and Occupancy Classification •Special Detailed Requirements Based on Use and Occupancy •General Building Heights and Areas •Types of Construction •Fire and Smoke Protection Features •Interior Finishes •Fire Protection Systems •Means of Egress •Accessibility •Interior Environment •Exterior Walls •Roof Assemblies and Rooftop Structures •Structural Design •Special inspections and tests•Soils and Foundations •Concrete •Masonry •Steel •Wood •Glass and Glazing •Gypsum Board and Plaster •Plastic •Plumbing•Elevators and Conveying Systems •Special Construction •Encroachments in the Public Right-of-Way •Safeguards During Construction

Code Check Building California: An Illustrated Guide to the Building Codes, emphasizes life-safety principles underlying building codes for California. Using clear language and helpful diagrams, this edition reflects the most up-to-date changes in the International Residential Code. The spiral-bound Code Check series is endorsed by the International Conference of Building Officials (ICBO). With durable laminated pages, it is designed to be used on-site for quick reference. The Code Check series is one of Taunton's most successful book lines, selling over 1 million copies. Spiral bound, with durable laminated pages, the books in this series are designed to be used on-site for quick reference, ensuring that all jobs meet the highest safety standards while drastically reducing code violation call-backs. The Code Check series is endorsed by the International Conference of Building Officials (ICBO)

THE BESTSELLING, FULLY ILLUSTRATED GUIDE TO THE 2018 INTERNATIONAL BUILDING CODE Uniquely marrying the graphic skills of bestselling author Francis D.K Ching with the code expertise of Steven Winkel, FAIA, the new sixth edition of Building Codes Illustrated is a clear, concise, and easy-to-use visual guide to the International Building Code (IBC) for 2018. Fully updated throughout, it highlights all of the changes to the code for quick reference and easy navigation. It pulls out the portions of the building code that are most relevant for the architect and provides an easy-to-understand interpretation in both words and

illustrations. The first two chapters of *Building Codes Illustrated: A Guide to Understanding the 2018 International Building Code*, Sixth Edition give background and context regarding the development, organization, and use of the IBC. The following sections cover such information as: use and occupancy; building heights and areas; types of construction; fire-resistive construction; interior finishes; means of egress; accessibility; energy efficiency; roof assemblies; structural provisions; special inspections and tests; soils and foundations; building materials and systems; and more. A complete, user-friendly guide to code-compliant projects Highlights all the significant changes in the 2018 IBC Uses clear language and Frank Ching's distinctive illustrations to demystify the 2018 International Build Code (IBC) text Provides students and professionals with a fundamental understanding of IBC development, interpretation, and application *Building Codes Illustrated: A Guide to Understanding the 2018 International Building Code* gives students and professionals in architecture, interior design, construction, and engineering a user-friendly, easy-to-use guide to the fundamentals of the 2018 IBC.

FULLY ILLUSTRATED, UPDATED GUIDE TO THE STRATEGIC DESIGN OF GREEN BUILDINGS In the tradition of *Building Construction Illustrated*, Francis D.K. Ching and Ian M. Shapiro offer a fully illustrated guide to the theory and practice of sustainable design. This guide provides architects, designers, and builders in the green design professional community a framework and detailed strategies for designing substantively green buildings. With a focus on sustainable sites, approaching and reaching net-zero energy, low and zero-water usage, minimum-impact materials and superior indoor environmental quality, this guide explains why we need to build green, as well as green building theory and advancements in the industry. This Second Edition includes: All-new case studies featuring geographically diverse buildings with proven zero energy performance Expanded coverage of zero energy building design, as well as zero water and zero waste buildings Practical guidance for the schematic design of high-performance buildings, heating and hot water system selection, building envelope details, and integrating renewable energy Advanced strategies, such as the concept of shape efficiency, and the optimal location for stairwells in buildings Additional strategies for affordability in green design and construction Updated references to the latest codes and standards This Second Edition of *Green Building Illustrated* is an excellent resource for professionals, students and those interested in the design and construction of sustainable buildings.

A comprehensive visual guide to the 2021 International Building Code®—fully updated for the latest regulations Thoroughly revised to reflect the International Code Council's 2021 International Building Code®, this full-color guide makes it easy to understand and apply complex IBC® provisions and achieve compliance. With an emphasis on structural and fire- and life-safety requirements, including building classification and means of egress regulations, this practical resource contains hundreds of user-friendly diagrams that clarify the application and intent of the IBC®. Designed to save you time and money, the 2021 International Building Code® Illustrated Handbook provides all the information you need to get construction jobs done right, on time, and up to the requirements of the 2021 IBC®. Coverage includes the 2021 IBC®: Scope and Administration Definitions Occupancy Classification and Use Special Detailed Requirements Based on Occupancy and Use General Building Heights and Areas Types of Construction Fire and Smoke Protection Features Interior Finishes Fire Protection and Life-Safety Systems Means of Egress Accessibility Interior Environment Exterior Walls Roof Assemblies and Rooftop Structures Structural Design Special Inspections and Tests Soils and Foundations Concrete Aluminum Masonry Steel Wood Glass and Glazing Gypsum Board, Gypsum Panel Products, and Plaster Plastic Electrical Plumbing Systems Elevators and Conveying Systems Special Construction Encroachments in the Public Right-of-Way Safeguards During Construction Appendices A through O Provides guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to treatment of historic buildings.

Dive into the history and application of the IBC *Building Codes Illustrated: A Guide to the 2015 International Building Code*, Fifth Edition is a bestselling complement to the International Building Code, or IBC. Designed to give you an insider's look at the origins of the IBC, how it can be interpreted, and how it applies to design and construction, this updated text offers new information regarding hazmat occupancies, hospitals, and nursing homes, major changes to how building heights and areas are presented, as well as means of egress, and the latest information on building materials, interior environments, and structural provisions. Francis D.K. Ching's distinctive illustrations and the code expertise of Steven Winkel, FAIA, give students and professionals in architecture, interior design, construction, and engineering industries a user-friendly, easy-to-use guide to fundamentally understanding the 2015 IBC. Building codes and standards serve to establish minimum regulations that emphasize performance while prioritizing public health and safety. Updated every three years, the IBC is the most important reference that you can leverage throughout your career in architecture, design, or engineering. The IBC is a national 'model building code' which is adopted in some form by most building permit jurisdictions across the nation and in several foreign countries. Access the updated regulations reflected in the 2015 IBC Explore how the IBC was developed, and why it is an important component of so many industries Identify the areas of the IBC that have undergone the most change, such as the presentation of building heights and areas, along with changes to means of egress provisions Easily navigate and digest the information with full illustrations *Building Codes Illustrated: A Guide to the 2015 International Building Code*, Fifth Edition is a practical, fully illustrated reference that guides you through the latest in building code regulations.

The most comprehensive guide to material selection & installation It takes a wise choice of building materials and details to create durable, attractive, and affordable custom homes and remodeling projects. *Best Practices Guide to Residential Construction* provides up-to-date, field-tested recommendations that help professionals balance cost and performance when designing and building residential projects. Steven Bliss, former editorial director of *The Journal of Light Construction* and founding editor of *Progressive Builder*, draws on his extensive knowledge as a practicing builder, designer, and construction editor to help building professionals select the right materials for every job and install them

with confidence. This one-stop resource covers the real-world challenges of material selection and installation so designers, contractors, and building owners can make informed decisions for all major building components. Useful to architects, designers, and specifiers--as well as contractors, builders, and developers--Best Practices Guide to Residential Construction features:

- * More than 200 photos and illustrations of critical residential construction details
- * Installation tips and cautions that help prevent costly product failures
- * Descriptions of the latest composites and synthetics that are changing the way we build
- * Easy-to-use charts for making quick product comparisons
- * An authoritative guide to indoor air quality and healthy house construction

Offers the latest regulations on designing and installing commercial and residential buildings.

The leading guide to professional home construction—now updated and revised! Fundamentals of Residential Construction, Third Edition features the most up-to-date explanations of today's residential construction systems. From foundation to roof and exterior finishes to interior details, this new edition thoroughly addresses the latest developments in materials and methods of house construction, including energy efficiency, framing, and roofing. Abundantly illustrated with more than 1,250 drawings and photographs, including new photorealistic illustrations that bring the text to life, this Third Edition provides authoritative coverage on wood light-frame construction, industrialized systems of construction, insulating concrete forms, light-gauge steel frame, panelized construction, and a new chapter on multifamily construction. Topics covered include: Plumbing Building codes Heating and cooling Financing Wiring Roofing Thermal insulation Environmental concerns Foundations Finish sitework Rough sitework Wood and light-gauge steel framing Engineered materials Exterior and interior finishes Organized in a logical, easy-to-follow format, Fundamentals of Residential Construction, Third Edition is the one-stop source for building professionals to gain a working knowledge of codes, management procedures, material, and all home building concerns.

Provides an all-in-one guide to the most commonly cited code violations encountered by building inspectors.

Code Check Building: An Illustrated Guide to the Building Codes, 4th Edition, emphasizes the key safety principles underlying building codes throughout the United States. Using clear language to ensure compliance with codes at each stage of construction, this edition reflects the most up-to-date changes in the 2015 International Residential Code. Tables and illustrations help to clarify the complex rules and numerous changes in the latest edition of the codes. Specific code change are highlighted throughout the text and summarized at the end of the book. The Code Check series is one of Taunton's most successful book lines, selling over 1,100,000 copies. Spiral bound, with durable laminated pages, the books in this series are designed to be used on-site for quick reference, ensuring that all jobs meet the highest safety standards while drastically reducing code violation call-backs. The Code Check series is endorsed by the International Code Council (ICC).

This comprehensive code for homebuilding combines building, plumbing, mechanical, fuel gas, energy, and electrical provisions into a single resource. The 2015 INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO- FAMILY DWELLINGS SOFT COVER uses these provisions to provide detailed insight into the construction of one- and two-family dwellings and townhouses up to three stories high. Using foundational principles that facilitate the use of new materials and building designs to guide the content, this reference guide also establishes minimum regulations using prescriptive provisions. This updated code includes information on common walls separating townhouses, remodeling of an existing basement, ramps that do not serve the required egress door, and carbon monoxide alarms.

Comprehensive and up-to-date- the classic visual guide to the basics of building construction For twenty-five years, Building Construction Illustrated has offered an outstanding introduction to the principles of building construction. Now this Third Edition has been expertly revised and updated to address the latest advances in materials, building technology, and code requirements. Complete with more than 1,000 illustrations, the book moves through each of the key stages of the design process, from site selection to building components, mechanical systems, and finishes. Topics within each chapter are organized according to the CSI MasterFormat(TM), making the book extremely easy to use. Special features of this edition include integrated coverage of environmentally friendly materials, sustainable building construction strategies, and ADA requirements, as well as the inclusion of both metric and standard U.S. measurements throughout the book. With its clear presentation of the basic concepts underlying building construction, Building Construction Illustrated, Third Edition equips students and professionals in all areas of architecture and construction with useful guidelines for approaching virtually any new materials or techniques they may encounter in building planning, design, and construction.

"The book provides a 28-step process that is organized according to the three phases of architectural design: schematic design, design development, and construction documents"--

THE CLASSIC GUIDE TO DRAWING FOR DESIGNERS, REVISED AND UPDATED TO INCLUDE CURRENT DIGITAL-DRAWING TECHNIQUES Hand drawing is an integral part of the design process and central to the architecture profession. An architect's precise interpretation and freedom of expression are captured through hand drawing, and it is perhaps the most fundamental skill that the designer must develop in order to communicate thoughts and ideas effectively. In his distinctive style, world-renowned author Francis D. K. Ching presents Design Drawing, Third Edition, the classic guide to hand drawing that clearly demonstrates how to use drawing as a practical tool for formulating and working through design problems. While digital tools continue to evolve, this Third Edition includes new illustrations and information on the latest digital-drawing techniques. Design Drawing, Third Edition covers the basics of drawing, including line, shape, tone, and space. Guiding the reader step-by-step through the entire drawing process, this Third Edition also examines different types of drawing techniques such as multiview, paraline, and perspective drawings—and reveals how the application of these techniques creates remarkable results. In addition, Design Drawing, Third Edition:

- Features over 1,500 hand drawings—stunning illustrations in the author's signature style that reinforce the concepts and lessons of each chapter
- Offers new exercises and illustrative examples that range in complexity
- Presents all-new digital drawing topics, such as hybrid floor plans, digital models and fabrication, and hand-to-digital fluency
- Includes access to a new website featuring videos of the author demonstrating freehand techniques in a step-by-step manner in the studio and on location

Written and illustrated for professional architects, designers, fine artists, illustrators, instructors and students, Design Drawing, Third Edition is an all-in-one package and effective tool that clearly demonstrates drawing concepts and techniques in a visually stimulating format that outshines other works in the field.

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This handy guide provides you with all the information you need to comply with the UK Building Regulations and Approved Documents. On site, in the van, in the office, wherever you are, this is the book you'll refer to time and time again to double check the regulations on your current job. The Building Regulations Pocket Book is the must have reliable and portable guide to compliance with the Building Regulations. Part 1 provides an overview of the Building Act Part 2 offers a handy guide to the dos and don'ts of gaining the Local Council's approval for Planning Permission and Building Regulations Approval Part 3 presents an overview of the requirements of the Approved Documents associated with the Building Regulations Part 4 is an easy to read explanation of the essential requirements of the Building Regulations that any architect, builder or DIYer needs to know to keep their work safe and compliant on both domestic or non-domestic jobs This book is essential reading for all building contractors and sub-contractors, site engineers, building engineers, building control officers, building surveyors, architects, construction site managers and DIYers. Homeowners will also find it useful to understand what they are responsible for when they have work done on their home (ignorance of the regulations is no defence when it comes to compliance!).

"Stories that both dazzle and edify... This book is not just about life, but about discovery itself. It is about error and hubris, but also about wonder and the reach of science." —Siddhartha Mukherjee, New York Times Book Review We all assume we know what life is, but the more scientists learn about the living world—from protocells to brains, from zygotes to pandemic viruses—the harder they find it is to locate life's edge. Carl Zimmer investigates one of the biggest questions of all: What is life? The answer seems obvious until you try to seriously answer it. Is the apple sitting on your kitchen counter alive, or is only the apple tree it came from deserving of the word? If we can't answer that question here on earth, how will we know when and if we discover alien life on other worlds? The question hangs over some of society's most charged conflicts—whether a fertilized egg is a living person, for example, and when we ought to declare a person legally dead. Life's Edge is an utterly fascinating investigation that no one but one of the most celebrated science writers of our generation could craft. Zimmer journeys through the strange experiments that have attempted to re-create life. Literally hundreds of definitions of what that should look like now exist, but none has yet emerged as an obvious winner. Lists of what living things have in common do not add up to a theory of life. It's never clear why some items on the list are essential and others not. Coronaviruses have altered the course of history, and yet many scientists maintain they are not alive. Chemists are creating droplets that can swarm, sense their environment, and multiply. Have they made life in the lab? Whether he is handling pythons in Alabama or searching for hibernating bats in the Adirondacks, Zimmer revels in astounding examples of life at its most bizarre. He tries his own hand at evolving life in a test tube with unnerving results. Charting the obsession with Dr. Frankenstein's monster and how Coleridge came to believe the whole universe was alive, Zimmer leads us all the way into the labs and minds of researchers working on engineering life from the ground up.

A new edition of Francis D.K. Ching's illustrated guide to structural design Structures are an essential element of the building process, yet one of the most difficult concepts for architects to grasp. While structural engineers do the detailed consulting work for a project, architects should have enough knowledge of structural theory and analysis to design a building. Building Structures Illustrated takes a new approach to structural design, showing how structural systems of a building—such as an integrated assembly of elements with pattern, proportions, and scale—are related to the fundamental aspects of architectural design. The book features a one-stop guide to structural design in practice, a thorough treatment of structural design as part of the entire building process, and an overview of the historical development of architectural materials and structure. Illustrated throughout with Ching's signature line drawings, this new Second Edition is an ideal guide to structures for designers, builders, and students. Updated to include new information on building code compliance, additional learning resources, and a new glossary of terms Offers thorough coverage of formal and spatial composition, program fit, coordination with other building systems, code compliance, and much more Beautifully illustrated by the renowned Francis D.K. Ching Building Structures Illustrated, Second Edition is the ideal resource for students and professionals who want to make informed decisions on architectural design.

Increasing size and complexity of software and hardware systems makes it harder to ensure their reliability. At the same time, the issues of autonomous computing become more critical as we more and more rely on software systems in our daily life. Such complexity is getting even more critical with the ubiquitous computing of embedded devices and other pervasive systems. These trends ask for techniques and tools for developing reliable and autonomous software which can support software engineers in their efforts. This book summarizes the state of the art of research in the diverse fields concerned, including novel designs, case studies and experimental as well as theoretical results.

In the climate-controlled buildings of today, moisture problems affect not only the useable life expectancy of the structure, but the comfort and health of the occupants. This reference is the first to apply up-to-date moisture control and treatment techniques in a problem/solution format. Opening with an introductory explanation of the nature and causes of mold, mildew, and condensation, the book gives specific advice on heated, cooled, and combination environments, plus a short course in the dynamics of moisture movement within buildings. Other invaluable coverage includes: * clear, detailed recommended practices for all United States climates * practices for cooling as well as heating climates (often, heating climate solutions are applied in cooling climates, where problems and solutions are completely different) * an overall, systematic view of moisture problems—including how mechanical systems and occupant lifestyles can create and also solve moisture problems * actual case studies of buildings with moisture problems that illustrate the principles and practices presented in the book This detailed, no-nonsense exploration of moisture cause and effect—as well as its protection and remediation—will expand readers' knowledge on this crucial subject. Moisture Control Handbook will be welcomed by building contractors, architects, mechanical engineers, building science researchers, building product manufacturers, homeowners, and small commercial building owners.

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An easy-to-use visual guide to the 2015 International Building Code® Thoroughly revised to reflect the International Code Council's 2015 International Building Code®, this full-color guide makes it easy to understand and apply complex IBC® provisions and achieve compliance. With an emphasis on structural and fire- and life-safety requirements, this practical resource has been designed to save time and money. The 2015 International Building Code® Illustrated Handbook provides all the information you need to get construction jobs done right, on time, and up to the requirements of the 2015 IBC®. Access to a suite of online bonus features is included with the book. Achieve Full Compliance with the 2015 IBC®: Scope and Administration Definitions Use and Occupancy Classification Special Detailed Requirements Based on Use and Occupancy General Building Heights and Areas Types of Construction Fire and Smoke Protection Features Interior Finishes Fire Protection Systems Means of Egress Accessibility Interior Environment Exterior Walls Roof Assemblies and Rooftop Structures Structural Design Structural Tests and Special Inspections Soils and Foundations Concrete Masonry Steel Wood Glass and Glazing Gypsum Board and Plaster Plastic Plumbing Elevators and Conveying Systems Special Construction Encroachments in the Public Right-of-Way Safeguards During Construction Appendices

An easy-to-use, illustrated guide to the 2009 edition of the International Building Code As the U.S. building industry adapts the international standards, architects and other building professionals need a clear, practical guide to the International Building Code. Marrying the graphic

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skills of bestselling author Frank Ching with the code expertise of Steven Winkel, FAIA, this invaluable reference provides an easy-to-understand interpretation in both words and illustrations of the portions of the building code that are most relevant for the architect. Highlighting major changes between the new code and previous model building codes, this book will help architects understand how this code change will affect their practice. Provides a visually-oriented guide to the 2009 International Building Code Uses illustrations and concise explanations to hone the building codes down to the fundamentals that most designers need Includes reviews by the International Code Council (ICC) and follows the ICC's 2009 International Building Code Drawings by Frank D.K. Ching (Seattle, WA), Professor Emeritus of Architecture at the University of Washington, is world-renowned for his numerous architecture and design books, including Architecture: Form, Space, and Order; A Global History of Architecture; Interior Design Illustrated; Building Codes Illustrated; and Building Construction Illustrated, all from Wiley Commentary written by nationally-recognized building codes expert Steven Winkel, the Architect member of the California Building Standards Commission, a past national board member of The American Institute of Architects (AIA), and past president of the AIA California Council Winkel is also co-author of Building Codes Illustrated for Elementary and Secondary Schools, Building Codes Illustrated for Healthcare Facilities, and Residential Building Codes Illustrated

This comprehensive code comprises all building, plumbing, mechanical, fuel gas and electrical requirements for one- and two-family dwellings and townhouses up to three stories. The IRC contains many important changes such as: An updated seismic map reflects the most conservative Seismic Design Category (SDC) based on any soil type and a new map reflects less conservative SDCs when Site Class A, B or D is applicable. The townhouse separation provisions now include options for using two separate fire-resistant-rated walls or a common wall. An emergency escape and rescue opening is no longer required in basement sleeping rooms where the dwelling has an automatic fire sprinkler system and the basement has a second means of egress or an emergency escape opening. The exemption for interconnection of smoke alarms in existing areas has been deleted. New girder/header tables have been revised to incorporate the use of #2 Southern Pine in lieu of #1 Southern Pine. New tables address alternative wood stud heights and the required number of full height studs in high wind areas.
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