

## Timber Construction Manual Birkhauser

Building with straw bales is a technique pioneered a century ago in the state of Nebraska. In recent years there has been a renaissance in the use of straw as a building material largely in the American Southwest, but also in Canada, Australia, France, Holland, Germany, Austria and China. Straw is a renewable resource with excellent insulating properties. It is a cheap and easy-to-use option for self-builders, and even large-scale structures can be erected using timber framework filled with straw. This book is a practical, hands-on guide to building with straw. Fire safety, protection against moisture, damp, pests and parasites are treated in detail. Numerous on-site photos document the process of assembly and construction step by step. 30 exemplary international projects illustrate the wide spectrum of design possibilities with straw.

Explore the most up-to-date green and sustainable methods for residential and commercial building construction as well as the latest materials, standards, and practices with **CONSTRUCTION MATERIALS, METHODS AND TECHNIQUES: BUILDING FOR A SUSTAINABLE FUTURE, 4E**. This comprehensive book's logical, well-structured format follows the natural sequence of a construction project. The book is the only one with an organization based on the Construction Specifications Institute (CSI) Masterformat standards. Readers will find the most current industry

developments and standards as well as latest relevant building codes within a dynamic new design. This edition emphasizes coverage of today's construction materials, methods and techniques that is critical to success in the industry. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

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Hafengebaude Rohner Lake Constance, Austria Baumschlager & Eberle De Blas House Sevilla de la Nueva, Madrid Alberto Campo Baeza LOOK UP Office Gelsenkirchen, Germany Anin Jeromin Fitolidis & Partner Valdemaqueda Town Hall Valdemaqueda, Spain Paredes Pedrosa Arquitectos Harrison Residence and Winery Euchuca, Australia Dennis Carter Price O'Reilly House Redfern, NSW Australia Engelen Moore Falmouth Recreation Center Falmouth, Massachusetts The Galante Architecture Studio Wood Overview Case Studies Messenger House Nova Scotia, Canada Brian MacKay-Lyons Bamboo Canopy Queens, New York nArchitects BTV Commercial and Residential Building Wolfurt, Germany Baumschlager + Eberle GucklHupf Mondsee, Austria Hans Peter Wornndl House in Kromeriz Kromeriz, Germany ARCHTEAM ILMASI School Garbsen, Germany Despang Architekten Think Tank Skibbereen, County Cork, Ireland Gumuchdjian Architects Sirch Woodworking Manufacturing Bohlen, Germany Baumschlager + Eberle Metals Overview Case Studies Power Station North Salzburg, Austria Betrix and Consolascio Architects Kavel 37 Borneo, Amsterdam Heren 5 Architecten Kew House Kew Melbourne, Australia Sean Godsell Max Planck Institute Dresden, Germany Heikkinen-Komonen Architects Melbourne Museum Melbourne, Australia Denton Corker Marshall Schemata XI Lawrence, KS University of Kansas Raum Zita Kern Raasdorf, Austria ARTEC Springecture H Hyogo, Japan Shuhei Endo Christ Pavilion, Expo 2000 Hanover, Germany GMP Tram Stations Hanover, Germany Despang Architekten Sauna Pavilion

Berkshire Mountains, Massachusetts Artifact Design + Construction Future Shack Sean Godsell Mining Archives Germany Von Gerkan, Marg and Partners Liner Museum Appenzell, Switzerland Gignon & Guyer Sudwestmetall Reutlingen Reutlingen, Germany Allmann Sattler Wappner Architekten Modular VII Chiller Plant University of Pennsylvania, Philadelphia, PA Leers Weinzapfel Associates The Aluminum Forest Houten, the Netherlands Architectenbureau Micha de Haas The Embassies of the Nordic Countries in Berlin-Tiergarten Berlin, Germany Bergen + Parkkinen Plastics Overview Case Studies Church in Urubo Urubo, Bolivia Light, Jae Cha 50 Argo Street South Yarra, Australia O'Conner + Houle Architecture Arauco Express Santiago, Chile Felipe Assadi Montreux Parking Garage Montreux, Switzerland Luscher Architects SA Ma Atelier and Gallery, Fukuoka Prefecture Hiroyuki Arima Kyushu, Japan Polymer Engineering Centre Broadmeadows, Victoria, Australia Kangan Batman TAFE Cox Sanderson Ness House in Imazato Imazato, Takamatsu Kagawa, Japan Katsuyasu Kishigami Colmenarejo Municipal Hall and Main Square Madrid, Spain Abalos + Herreros The Olympic Amenities Building Sydney, New South Wales, Australia Durbach Block Architects EKO Park Expo Pavilion Warsaw, Poland APA Kurylowicz & Associates Shiloh Bus Shelter Asheville, North Carolina Design Corps Summer Studio Bibliography Index.

New materials and stricter energy-efficiency requirements have brought about radical changes in timber construction in recent years. Whether built on site or pre-fabricated,

this publication provides a concise survey of modern timber construction, the materials and their applications.

Whether it be as translucent sheets, broadly stretched membranes, and inflated foil cushions or in graceful, organic curves, architecture today is utilizing plastics in the most disparate forms and for a wide variety of purposes. Innovative technical developments are constantly improving its material properties; at the same time, there is a growing new awareness of its potential as a construction material. While plastics used to be employed primarily as an inexpensive variant on traditional building materials, they are increasingly regarded in the construction world today as a serious and viable alternative, be it as supporting structures, roofs, facades, or elements of interior design and decoration. Thanks in large part to this inherent self-sufficiency, plastics are currently enjoying an unprecedented surge in popularity, even among the international architectural avant-garde – as multiwall sheets or corrugated, fiber-reinforced panels, or as filling between glass panes. And the new generation of ecological bioplastics also pays tribute to the debate on sustainability, ridding plastics of their lingering reputation as environmental offenders. From the history of plastics and membranes in architecture to their material properties and requirements in construction and design, the *Plastics and Membranes Construction Manual* cuts to the chase, providing the kind of solid and comprehensive overview of the subject that readers have come to expect from the *Im DETAIL* series. Selected project examples round off the

reference work and make it indispensable for the day-to-day life of the professional planner and for every architecture library.

"This book is a vital reference work on the construction of pitched roofs. It offers extensive and fundamental information on all common types of roofing, and provides practical details for their construction".--BOOKJACKET.

The interest in clay as a building material – which has proved its sustainable characteristics over centuries – is growing. Light clay, which is light in weight and easy to work, is presented here as a versatile and forward-looking building material for modern computer-aided timber construction and the renewal of historic timber-framed buildings with clay infill. The balanced building physics properties of the material, which can be controlled through the mixing proportions, make it suitable for resource-efficient building in various different climate zones. Thermal storage, sound insulation, protection against moisture and fire in conventional timber construction are improved, and the construction is simplified. This standard publication describes detailed production methods, includes practical tips for self-building, and demonstrates the application of ready-made materials in modern construction. The book is aimed at architects, engineers, and their clients, as well as for listed building officers, manufacturers, tradesmen and self-builders

«Facade Construction Manual» provides a systematic survey of contemporary expertise in the application of new materials and energy-efficient technologies in facade design. It

surveys the facade design requirements made by various types of buildings, as well as the most important materials, from natural stone through to synthetics, and documents a diversity of construction forms for a wide range of building types.

Economical, ecological: designing and building with straw. Building with straw bales is a technique pioneered a century ago in the state of Nebraska. In recent years there has been a renaissance in the use of straw as a building material largely in the American Southwest, but also in Canada, France, Holland, Germany, Austria and China. Straw is a renewable resource with excellent insulating properties. It is a cheap and easy-to-use option for self-builders, and even large-scale structures can be erected using timber frame-work filled with straw. This book is a practical, hands-on guide to building with straw. Fire safety, protection against moisture, damp, pests and parasites are treated in detail. Numerous on-site photos document the process of assembly and construction step by step. 30 exemplary international projects illustrate the wide spectrum of design possibilities with straw.

often described as the "fifth façade", the flat roof is extremely popular with architects. Its essential task is to shelter the space beneath it from the elements. Beyond this, the use of flat roofs may be optimized by integrating them as green roofs, roof terraces, circulation areas, and even productive solar roofs. In practice, however, their correct and professional realization is a highly exacting task: in addition to providing the planner with basic rules of construction and

design, the Flat Roof Manual also supplies an overview of the use and construction types as well as the standard assemblies for flat roofs. Together with the most important standards and bodies of regulations, construction drawings of the principal connection points round out the volume.

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. Understanding Steel Design is based on an overall approach to understand how to design and build with steel from the perspective of its architectural applications. Steel is a material whose qualities have enormous potential for the creation of dynamic architecture. In an innovative approach to the reality of working with steel, the book takes a new look both at the state of tried-and-tested techniques and at emerging projects. Hundreds of steel structures have been observed, analyzed and appraised for this book. In-depth construction photographs by the author are complemented by technical illustrations created to look more closely at systems and details. Drawings supplied by fabricators allow greater insight into a method of working with current digital drawing tools. With its 600 photos plus 4000 drawings and plans, the Timber Construction Manual is a reference work in the specialist literature on timber. This latest Construction Manual looks at all types of timber materials, timber engineering and architecture, also presenting detailed information on current regulations and standards.

Tall Wood buildings' have been at the foreground of innovative building practice for a number of years. From London to Stockholm, from Vancouver to Melbourne timber buildings of up to 20 storeys have been built or designed. This publication explains the typical construction types and documents an international selection of 13 case studies with many specially prepared construction drawings, demonstrating the range of the technology.

"Wood is suitable for use in multi-storey building construction with barely any restrictions. This is new and requires creative rethinking of tried and tested practices in wood construction: classical categories can be replaced by mixed construction methods as necessary within a project, which yields completely new possibilities in designing wood structures. The Manual provides architects, engineers and wood specialists with the essential expertise on the new systematic and construction methodology, from the design to prefabrication to the implementation on site. It lays the grounds for mutual understanding among everyone involved in the project, to facilitate the necessary cooperation in the integral planning and construction process." --Publisher.

Soccer stadiums, airports, theaters, museums – it falls to very few architects to tackle spectacular building tasks like these. The everyday work of most architects is more often focused on "manageable" projects like the renovation, remodeling,

or rebuilding of single- and multi-family houses, schools, and offices. Whatever the nature of the building task, interior construction is always a significant design and qualitative challenge that calls for highly detailed technical expertise. After all, it affects the realm that will be brought to life and utilized by the user when the task is finished, and whose aesthetic and functional serviceability will be put to the test each and every day. The Interior Construction Manual supports planners in their daily work as a practical planning aid and reference work with the relevant standards, guidelines, reference details, and constructional solutions, all illustrated by built example projects. It brings together the crucial facts on all aspects of interior construction and presents the key fundamentals of building physics, fire protection, interior construction systems, and openings. In addition, it offers concrete tips on integrated planning approaches, energy and sustainability issues, materials used in interior construction, hazardous substances, and dealing with building services and light planning.

Das Nachschlagewerk zur Konstruktion mit Holz und Holzwerkstoffen mit einem ausführlichen Kapitel zum Thema Ökologie, bauphysikalischen Grundlagen mit den Schwerpunkten Wärme-, Schall- und Brandschutz. Im Bereich der Tragwerksplanung spielen die neuen Verbindungsmittel eine wichtige Rolle.

Modern Construction Handbook has become a modern classic of building

construction literature. In the USA, it is used as a reference work for many architectural courses. With the chapters "Material", "Wall", "Roof", "Structure", "Environment" and "Applications" it systematically explores the subject and provides a clear and efficient structure to the reader. For the fourth edition, many of the 3D illustrations have been updated and, likewise, the technical information has been brought up to date. "Applications" showcases current developments, such as those relating to mass customization manufacture of components, and presents material and construction innovations. A compact and systematic handbook filled with information, produced for students and young architects alike.

Timber construction has become completely modernized. It has gained considerably in market share with respect to competing building materials and is dominated by systems such as frame and solid timber construction. Every timber construction is determined by its structure. Hence it is essential to know the connections and relationships from the design stage right through to the construction phase. Systems in Timber Engineering takes a whole new approach to this subject. It is a comprehensive, analytical, and visually organized treatment, from the simple single-family house to the large-scale multistore structure. It includes the building envelope, which is so important for saving energy, and systems for ceilings and interior dividing walls, which are so essential from the vantage point of construction. This work uses plans, schematic drawings, and pictures to show the current and forward-looking state of the technology as

applied in Switzerland, a leading country in the field of timber construction.

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Throughout history, people have constructed simple timber lattice shelters such as the tepee or yurt, covered with animal skins, leaves, grasses and woven fabrics. Over the last fifty years, more sophisticated 'webs of wood' have emerged, with timber gridshells in particular becoming a structurally expressive form of architecture. Recent developments in digital design, 3-D modelling software, timber fabrication technologies as well as trends towards low-carbon construction have further reinforced architects' interest in the use of lightweight timber grids and lattice structures. This timely book charts the origin and evolution of the timber gridshell and its relation to timber lattice architecture. Drawing on a range of international case studies, the authors trace the effect advances in technology have had on design and construction in this field, providing a clear understanding of the structure, morphology, design process, and construction technology, and examining both the application and constraints of timber gridshells in architectural design. Timber Gridshells is a highly illustrated, up-to-date resource which provides detailed answers and inspires new ideas. As such, it is essential reading for students of architecture as well as professional architects.

This book provides the means for a better control and purposeful consideration of the design of Architecturally Exposed Structural Steel (AESS). It deploys a detailed categorization of AESS and its uses according to design context, building typology and visual exposure. In a rare combination, this approach makes high quality benchmarks compatible with economies in terms of material use, fabrication methods, workforce and cost. Building with exposed steel has become more and more popular worldwide, also as advances in fire safety technology

have permitted its use for building tasks under stringent fire regulations. On her background of long standing as a teacher in architectural steel design affiliated with many institutions, the author ranks among the world's best scholars on this topic. Among the fields covered by the extensive approach of this book are the characteristics of the various categories of AESS, the interrelatedness of design, fabrication and erection of the steel structures, issues of coating and protection (including corrosion and fire protection), special materials like weathering steel and stainless steel, the member choices and a connection design checklist. The description draws on many international examples from advanced contemporary architecture, all visited and photographed by the author, among which figure buildings like the Amgen Helix Bridge in Seattle, the Shard Observation Level in London, the New York Times Building and the Arganquela Footbridge.

Until now, the few existing systematic texts on construction materials have primarily been directed at building engineers. An overview for architects, which also considers the importance of construction materials in the sensory perception of architecture—including tactile qualities, smell, color, and surface structure—has not been available. With the publication of the Construction Materials Manual, all that has changed. As a basic work aimed equally at the questions and perspectives of architects and building engineers, it will bring together all of the above-mentioned viewpoints. It addresses fundamental questions of sustainability, including life-span, environmental impact, and material cycles, while also presenting material innovations. All of the principal conventional and innovative construction materials are comprehensively documented, with attention to their production, manufacture, fabrication, treatment, surfaces, connections, and characteristics. International examples help to illustrate

their use in architecture, where a building's appearance is often defined by a single material. Thus, the Construction Materials Manual will support the daily work of architects and engineers in the choice of construction materials in a comprehensive and at the same time vivid and stimulating manner.

### Publisher Description

This edition of the industry standard on architectural detailing includes new sections covering analysis and modification of existing details and design of new details, both basic and advanced. Revised to address sustainability and to reflect the International Building Code®, Architectural Detailing continues to deliver reliable, insightful information on how to design details that will be water- and airtight, control the flows of heat and water vapor, adjust to all kinds of movement, age gracefully, be easy to construct, and still look good. Conveniently organized by the three major concerns of the detailer—function, constructibility, and aesthetics—this edition features: Richly illustrated examples of detail design, case studies, and practical exercises. New and revised patterns showing form, constructibility, and aesthetics. Everything you need, whether a student or professional, to design details that work. Order your copy today.

"Prefab Architecture . . . is beyond theory, and beyond most of what we think we know about pods, containers, mods, and joints. This book is more than 'Prefabrication 101.' It is the Joy of Cooking writ large for the architecture and construction industries." —From the Foreword by James Timberlake, FAIA THE DEFINITIVE REFERENCE ON PREFAB ARCHITECTURE FOR ARCHITECTS AND CONSTRUCTION PROFESSIONALS Written for architects and related design and construction professionals, Prefab Architecture is a guide to off-site construction,

presenting the opportunities and challenges associated with designing and building with components, panels, and modules. It presents the drawbacks of building in situ (on-site) and demonstrates why prefabrication is the smarter choice for better integration of products and processes, more efficient delivery, and realizing more value in project life cycles. In addition, Prefab Architecture provides: A selected history of prefabrication from the Industrial Revolution to current computer numerical control, and a theory of production from integrated processes to lean manufacturing Coverage on the tradeoffs of off-site fabrication including scope, schedule, and cost with the associated principles of labor, risk, and quality Up-to-date products featuring examples of prefabricated structure, enclosure, service, and interior building systems Documentation on the constraints and execution of manufacturing, factory production, transportation, and assembly Dozens of recent examples of prefab projects by contemporary architects and fabricators including KieranTimberlake, SHoP Architects, Office dA, Michelle Kaufmann, and many others In Prefab Architecture, the fresh approaches toward creating buildings that accurately convey ature and expanded green building methodologies make this book an important voice for adopting change in a construction industry entrenched in traditions of the past.

"Since its first publication in 1966, Timber Construction Manual has become the definitive design and construction industry source for building with wood, both sawn lumber and structural glued laminated timber. Timber Construction Manual, Fifth Edition features an improved organization of content to provide architects, engineers, contractors, educators, the laminating and fabricating industry, and all others having a need for reliable, up-to-date technical data and recommendations on engineered timber construction with essential

knowledge of wood and its application to specific design considerations."--BOOK JACKET. A construction material that once was innovative and modern and then fell somewhat into disrepute through some of the quite radical post-war architecture, concrete is today very popular with planners and builders due to its multifaceted nature. The material offers enormous potential through its extensive load-bearing capacities but also due to the diversity of its properties and surface characteristics. In addition to the technical possibilities customarily attributed to concrete construction, the construction material is on the ascendant not least due to the current debate regarding energy efficiency and sustainability, since it seems tailor-made for the realization of the relevant requirements. It is not just the design and construction of concrete load-bearing structures that are the focus of this publication, but also the materiality and thus the haptic and sensuous side of the material in particular. That's because visible concrete in "smooth gray flawless" quality is not everything that concrete has to offer. Even designers and interior decorators develop furniture and space innovations of unimagined sensuality. The Modern Concrete Construction Manual provides the planner with well-founded expert information regarding the construction material of concrete, ranging from manufacturing to materiality to the design of concrete load-bearing structures, including current options for digital design and production processes.

As a standard reference volume, the publication offers comprehensive and detailed insights regarding topics including cost-effectiveness, energy and sustainability, renovation, design and interior decoration. An extensive index of works with successful real-life examples provides inspiration and invites the reader to make modern use of a classical construction material.

The construction manuals from Edition Detail have set new standards in the field of specialist literature, becoming an indispensable part of any architect's library. The latest volume in this series examines brickwork and the wide range of possibilities it offers. A completely new and revised edition, it documents in detail the technical principles involved in using brickwork for building, it examines the various materials used, their properties, the sizes and forms of bricks, the bonds, and the behaviour of brickwork under stress. The methods of building with brick are also dealt with in detail. In addition, full information is provided on the requirements with respect to heat, damp, sound-proofing and fire protection, and the most recent standards and norms are listed. Finally, a large number of built examples are presented, complete with plans and details, all of which illustrate the many applications of brickwork in contemporary construction. All plans have been specially produced by the editorial department Detail for this book and for ease of comparison, they have been drawn to the same scale.

The Floor Plan Manual Housing has for decades been a seminal work in the field of architecture. In its 5th, revised and expanded edition, approximately 160 international housing projects built after 1945 are documented and analyzed. The focus is on exemplary and transferrable projects, and on innovative and trendsetting concepts. The systematic representation of all projects allows the reader to compare and evaluate various floor plans – and to be inspired by the wealth of ideas and strategies for one's own design work. The introductory theoretical and historical essays have been newly written or updated, and offer a structured overview of the residential housing typology and its development. Glass offers a wide variety of possible applications for the realization of even the most ambitious designs in architecture, and in the past two decades it has experienced an unparalleled burst of innovation. For planners, this means working constantly with this high-performance material. In compact and appealing form, the completely revised Glass Construction Manual presents the current state of the art on planning and building with glass, from the history through the technical foundations all the way to the most innovative applications. Astonishing perspectives on thermal insulation and solar protection and the addition of thoughtfully selected new practical examples round off this comprehensive reference work.

This book will focus on lignocellulosic fibres as a raw material for several applications. It will start with wood chemistry and morphology. Then, some fibre isolation processes will be given, before moving to composites, panel and paper manufacturing, characterization and aging.

Now in its second edition: the trailblazing introduction and textbook on construction includes a new section on translucent materials and an article on the use of glass.

Contains topics that range from glass joints, fixings and adhesives to architectural designs to the strength, stability and safety of glass. This book also covers issues such as laminates and composite designs, glass lighting, the curving and bending of glass and the many facades of glass.

Modern Construction Envelopes deals with the facade and roof as an integral part of the building, allowing a holistic approach to the design of the building envelope and providing greater design freedom. The book is aimed at readers who want to extend their knowledge of wall and roof construction beyond the information given in the Modern Construction Handbook, using state-of-the-art construction principles of modern facade and roof systems. The third edition of this classic has been fully brought up to date; it contains new examples in all chapters and presents the projects in revised, new 3D drawings and in 27 AR

applications that can be accessed free of charge via smartphone and tablet. This book provides a compendium of material properties, demonstrates several successful examples of bio-based materials' application in building facades, and offers ideas for new designs and novel solutions. It features a state-of-the-art review, addresses the latest trends in material selection, assembling systems, and innovative functions of facades in detail. Selected case studies on buildings from diverse locations are subsequently presented to demonstrate the successful implementation of various biomaterial solutions, which defines unique architectural styles and building functions. The structures, morphologies and aesthetic impressions related to bio-based building facades are discussed from the perspective of art and innovation; essential factors influencing the performance of materials with respect to functionality and safety are also presented. Special emphasis is placed on assessing the performance of a given facade throughout the service life of a building, and after its end. The book not only provides an excellent source of technical and scientific information, but also contributes to public awareness by demonstrating the benefits to be gained from the proper use of bio-based materials in facades. As such, it will appeal to a broad audience including architects, engineers, designers and building contractors.

A comprehensive reference of materials for interior designers and architects. Choosing the right material for the right purpose is a critical—and often overlooked—aspect in the larger context of designing buildings and interior spaces. When specified and executed properly, materials support and enhance a project's overall theme, and infuse interior space with a solid foundation that balances visual poetry and functionality. *Materiality and Interior Construction* imparts essential knowledge on how materials contribute to the construction and fabrication of floors, partitions, ceilings, and millwork, with thorough coverage of the important characteristics and properties of building materials and finishes. Individual coverage of the key characteristics of each material explores the advantages and disadvantages of using specific materials and construction assemblies, while helping readers discover how to make every building element count. In addition, *Materiality and Interior Construction*: Is highly illustrated throughout to show material properties and building assemblies. Supplies rankings and information on the "green" attributes of each material so that designers can make informed decisions for specifications. Is organized by application for easy and quick access to information. Includes a companion website, featuring an extensive online image bank of materials and assemblies. Rather than a typical catalog of materials, *Materiality and Interior Construction* is

efficiently organized so that the reader is guided directly to the options for the location or assembly they are considering. Reliable and easy to use, Materiality and Interior Construction is a one-stop, comprehensive reference for hundreds of commonly used materials and their integration as building components—and an invaluable resource that every interior designer or architect should add to their set of tools.

For ease of comparison all the plans have been drawn to the same scale." "The volume concludes with an extensive bibliography and a listing of the relevant norms and standards, making this work an essential reference for all architects and engineers."--BOOK JACKET.

the Roof Construction Manual is a comprehensive reference work on the construction of pitched roofs, containing over 1800 plans and 220 photographs. Thirteen fundamental roof types and the relevant materials including thatch, wood, slate, tile, concrete, fibrous cement, bitumen, glass, metal, membranes, and synthetic materials are documented in detail. Essential topics such as ventilation, vapour and wind seals, insulation and drainage, renovation and energy conservation are examined. As with all the Construction Manuals, some 38 built examples illustrate the theoretical details, paying particular attention to important features such as the ridge, hip, eaves, roof valley, verge, and

penetration. A compact presentation of the load-bearing physics and structures as well as current norms and standards make this volume an indispensable standard work for all architects and engineers.

Most of the buildings that will be needed in Europe in the coming decades have long since been built. The building tasks of the future lie in the skillful reuse and transformation of existing building stock, whether it be the redevelopment of historic city centers, the building of extensions onto residential structures, the expansion of public buildings, or the redevelopment of entire factory areas. Building in the existing fabric calls for highly specific approaches in planning, construction, and implementation. It spans a broad range of building tasks, from working within the guidelines of historic preservation and renovating carefully and cautiously all the way to the complete transformation of what exists. In addition to aesthetic transformation, technical aspects such as improving energy efficiency and working with contaminated building materials also play an important role. This book provides a comprehensive overview of architectonic strategies of "continuing to build." It presents intelligent ideas and approaches for working with existing building stock and divides them into three categories according to the method selected: addition, transformation, and reuse. Presented in this volume are everyday projects such as the revitalizing of structures from the 1950s to the

1970s – for example, the renovation of Siedlung Heuried in Zurich by Adrian Streich Architekten – but also more specialized examples such as the open-air library made of elements recycled from the façade of a department store in Magdeburg-Salbke by Karo\* Architekten. Interviews with experts provide helpful background information on selected topics.

Faced with man-made climate change and the need to provide housing for a growing world population, society needs to rethink the way future buildings are made. Wood is a truly renewable building material that is unlimited in supply if its growth and harvest are sustainably managed. Recent technological advancements in engineering allow the use of timber for the construction of multi-story structures, turning our buildings into carbon sinks rather than becoming sources for CO<sub>2</sub>-emissions. The book presents convincing arguments for the increased use of wood as an alternative to more fossil fuel intensive building materials, with the goal of demonstrating that an integrated approach can have the potential for positive impact on the environment, local economies, and the building culture at large.

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