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# Glass Construction Manual

## Birkhauser

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*Glass Construction  
Manual Birkhauser*

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### MARISSA BRYCE

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Basics Glass Construction Birkhäuser

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.

**Springer Handbook of Glass** Walter de Gruyter

"Glass in Building" opens up a whole range of fascinating design possibilities for the planning architect. Glass has long served as a translucent room closing element, but its range of possible uses is actually much wider. It not only offers protection against the external world, for example, noise or fire; despite its apparent fragility, it can even take on load-bearing functions in supporting structures. In combination with various different finishing methods, materials,

and coatings, it also satisfies exacting structural-physical standards. "Glass in Building" offers a clear, compact, and illustrated overview of the material-appropriate use of this varied and versatile material in building construction and provides information that goes far beyond the basics on designing with glass and producing and using specialized glass products, as well as on the building and planning regulations that must be taken into account when constructing with glass. A selection of exemplary realized projects rounds out the theoretical section. Das Bauen mit Glas eröffnet dem planenden Architekten faszinierende gestalterische Möglichkeiten. Schon lange dient es als lichtdurchlässiger Raumabschluss, ist aber weitaus vielfältiger einsetzbar: Glas bietet nicht nur Schutz vor der Aussenwelt, etwa gegen Lärm oder Feuer, sondern kann trotz seiner vermeintlichen Zerbrechlichkeit sogar lastabtragende Funktionen innerhalb eines Tragwerks übernehmen. In Kombination mit verschiedenen

Veredelungsmethoden, Materialien und Beschichtungen erfüllt es auch hohe bauphysikalische Anforderungen. „Detail Practice: Konstruktiver Glasbau“ liefert einen kompakten, anschaulichen Überblick über den materialgerechten Einsatz dieses facettenreichen Baustoffs in der Baukonstruktion und vermittelt weit über die Grundlagen hinausreichende Informationen zum Entwerfen mit Glas, zur Herstellung und Anwendung spezieller Glasprodukte sowie zu den baurechtlichen Regelungen, die im Glasbau zu berücksichtigen sind. Eine Auswahl beispielhafter realisierter Projekte rundet den theoretischen Teil ab.

### **Modern Concrete Construction**

**Manual** Laurence King Publishing  
Glass construction is one of the most varied and innovative areas of structural design. Glass connects exterior and interior spaces; at the same time, it protects the interior space from the outside world. Its constructional possibilities go far beyond classical window constructions. Special glasses possess astonishing physical characteristics and can thus be used in varied and creative ways. Topics: Glass as building material Processing and finishing Applications Construction types Connections / Mountings  
*Architectural Detailing* Routledge  
Building structures to house the logistical and manufacturing processes of industry is one of the largest and most widespread architectural assignments. The complex functional requirements are often fulfilled by typified or modular solutions. The organization of industrial processes together with the wide range of designs and building methods are clearly and practically treated in this design atlas. A systematic section presents the typology, the technical and

logistical elements of industrial building. In the subsequent section, some 70 designs are described and analysed. Special emphasis is placed on those functions and procedures that inform the design such as production, montage, storage and distribution. Jürgen Adam is Director of the Institute for Design and Construction at the University of Stuttgart. As an architect and teacher he has followed closely developments in international industrial building, as have the contributing authors, among others Gunther Henn, Klaus Daniels and Fritz Haller.

### **Old & New** Walter de Gruyter

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.

### Measure and Construction of the Japanese House Walter de Gruyter

Infra-lightweight concrete combines the structural and thermal insulation functions of the building envelope in one monolithic material, thus providing new design options. The handbook is a practical guide to building with this new type of material. The architects and structural engineers of the interdisciplinary team of authors combine their findings from many years of research, including from a project in which the team investigated the architectural and structural potential of infra-lightweight concrete in multi-story residential buildings. In addition to essential information on designing with the material, including construction details, and an overview of the building physics properties, practical advice on building details is provided in the form of sizing tables and numerous details from various projects.

*Glass Construction Manual* Princeton

### Architectural Press

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.

### *Materials for Architects and Builders* Birkhäuser

*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.

### *Cladding of Buildings* World Scientific Publishing Company

What constitutes a high-rise building? A high-rise is, in fact, any building with more than 9 storeys and not just those striking skyscrapers which shape modern city skylines. In the past architects who designed such structures used to be the exception but in the last 10 years more and more architectural offices have begun to focus on this type of building. However, the sheer complexity of designing and planning the construction of a high-rise as opposed to other building types requires a wealth of specialized experience and expertise. The *High-Rise Manual* is the first comprehensive reference work on this subject. All relevant aspects of such an undertaking are examined in detail by some 24 specialist authors. Each step is extensively documented including the initial project planning, the building organisation, the laying of the foundations, the supporting structure, the building technology, the office design, and the Facility Management. Theoretical contributions present the basic principles of select

### Using the Engineering Literature Routledge

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.

**Challenging Glass** Walter de Gruyter  
Bricks and brickwork; Blocks and blockwork; Lime, cement and concrete; Timber and timber products; Ferrous and non-ferrous metals; Bitumen and flat roofing materials; Glass; Ceramic materials; Stone and cast stone; Plastics; Glass-fibre reinforced plastics, cement and gypsum; Plaster and board materials; Insulation materials; Sealants, gaskets and adhesives; Paints, wood stains, varnishes and colour; Energy-saving materials and components; Recycled and ecological materials; Sustainability

*Industrial Buildings* Birkhäuser

This is a reference work on working with glass. This volume aims to show the wide range of possibilities for using glass in construction, beginning with a historical overview of glass in architecture and explores the principles of construction, with such practical aspects as fixing systems.

Façades Birkhäuser

The Masonry Construction Manual

examines the wide range of possibilities stone and brickwork offer in building. It documents in great detail the technical principles and methods of building with these materials, examines their properties, the sizes and forms of bricks and stones, the bonds, and the behaviour of stone and brickwork under stress. 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 stone and brickwork in contemporary construction. All plans have been drawn at equal scale especially for this book to ensure best legibility and easy comparison. 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.

Construction Manual for Polymers + Membranes Walter de Gruyter

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.

*Constructing Architecture* CRC Press  
 "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.

*Building with Infra-lightweight Concrete*  
 Birkhäuser

This Encyclopedia begins with an introduction summarizing its scope and content. Glassmaking; Structure of Glass, Glass Physics, Transport Properties, Chemistry of Glass, Glass and Light, Inorganic Glass Families, Organic Glasses, Glass and the Environment, Historical and Economical Aspect of Glassmaking, History of Glass, Glass and Art, and outline possible new developments and uses as presented by the best known people in

thefield (C.A. Angell, for example).

Sections and chapters are arranged in a logical order to ensure overall consistency and avoid useless repetitions. All sections are introduced by a brief introduction and attractive illustration. Newly investigated topics will be addressed, with the goal of ensuring that this Encyclopedia remains a reference work for years to come.

*Understanding Steel Design* Springer  
 Science & Business Media

*Materials for Architects and Builders* provides a clear and concise introduction to the broad range of materials used within the construction industry and covers the essential details of their manufacture, key physical properties, specification and uses. Understanding the basics of materials is a crucial part of undergraduate and diploma construction or architecture-related courses, and this established textbook helps the reader to do just that with the help of colour photographs and clear diagrams throughout. This new sixth edition has been completely revised and updated to include the latest developments in materials research, new images, appropriate technologies and relevant legislation. The ecological effects of building construction and lifetime use remain an important focus, and this new edition includes a wide range of energy-saving building components.

*High-rise Manual* Walter de Gruyter  
 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.

Timber Construction Manual John Wiley & Sons

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 Envelopes

Birkhauser

The industry-standard guide to designing well-performing buildings Architectural Detailing systematically describes the principles by which good architectural details are designed. Principles are explained in brief, and backed by extensive illustrations that show you how to design details that will not leak water or air, will control the flow of heat and water vapor, will adjust to all kinds of movement, and will be easy to construct. This new third edition has been updated to conform to International Building Code 2012, and incorporates current knowledge about new material and construction technology. Sustainable design issues are integrated where relevant, and the discussion includes reviews of recent built works that extract underlying principles that can be the basis for new patterns or the alteration and addition to existing patterns. Regulatory topics are primarily focused on the US, but touch on other jurisdictions and geographic settings to give you a well-rounded perspective of the art and science of architectural detailing. In guiding a design from idea to reality, architects design a set of details that show how a structure will be put together. Good details are correct, complete, and provide accurate information to a wide variety of users. By demonstrating the use of detail patterns, this book teaches you how to design a building that will perform as well as you intend. Integrate appropriate detailing into your designs Learn the latest in materials, assemblies, and construction methods Incorporate sustainable design principles and current building codes Design buildings that perform well, age gracefully, and look great Architects understand that aesthetics are only a small fraction of good design, and that stability and

functionality require a deep understanding of how things come together. Architectural Detailing helps you bring it all together with a well

fleshed-out design that communicates accurately at all levels of the construction process.