

Building Skins Concepts Layers Materials Moraro

The Wessex Institute of Technology has for years been convening conferences on sustainable architecture and planning, design in nature, heritage architecture, and environmental health. With the growing importance of lighting in the creation of better, healthier environments, the enhancement of heritage architecture, and the recovery of urban areas, as well as new developments in more sustainable lighting it became clear that a conference focusing on lighting issues would be useful. This book contains the papers to be presented at the first International Conference on Lighting in Engineering, Architecture and the Environment, discussing the latest developments in a variety of topics related to light and illumination, from its engineering aspects to its use in art and architecture and the effect of light on living systems and human health. Ranging from discussions of technical issues regarding equipment design and light measurement to human perception of light and the effect of light on human health, the book will be of interest to architects, planners, environmental health experts, and stage designers in academia, industry and government, as well as colleagues discussing the latest developments in a variety of topics related to light and illumination, from its engineering aspects to its use in art and architecture and the effect of light on living systems and human health.

This book explores the theories, practices and principles of new approaches to solar architecture that foster both design excellence and low-energy use. In response to the challenges of global warming and climate change, design and technology enable architects to achieve greater performance standards while at the same time developing an environmental aesthetic. The book showcases ten award-winning buildings to illustrate the aesthetic and technological design integration of solar response in contemporary zero-energy and low-energy architecture. For each project there is a detailed examination of the local climate, the design and construction, and the technology used to reduce energy use. Towards Zero-energy Architecture is a much-needed call for the design professions to redefine architecture to help solve ecological problems. Few parts of a building work harder than its envelope (also known as its facade). The envelope is the part of the building most visible from the outside--so it should be visually appealing--but it can also have the biggest effect on the well-being and safety of its occupants--so the envelope should help heat and cool the building, allow light into it, and provide necessary structure. Too often, a building's envelope is more aesthetically striking than functional, or vice versa. A great building envelope, though, architecturally integrates all of its elements.

Exploring the design of innovative building enclosure systems (or skins) in contemporary architecture and their precedents in earlier twentieth century modern architecture, this book examines the tectonics, the history and the influence of translucency as a defining characteristic in architecture. Highly illustrated throughout with drawings and full colour photographs, the book shows that translucency has been and continues to be a fertile ground for architectural experimentation. Each chapter presents a comparative analysis of two primary buildings: a recent project, paired with a historical precedent, highlighting how architects in different eras have realized the distinctive effects of translucency. The included buildings span a variety of program types, ranging from a single-family residence, to a factory, to a synagogue.

Whether it is Pierre Chareau's glass-lens curtain wall at the Maison de Verre, Frank Lloyd Wright's wall of stacked glass tubes at the Johnson Wax Research Tower, or Peter Zumthor's use of acid-etched glass in a double-skin envelope at the Kunsthaus Bregenz, the included projects each offer an exemplary case study of innovations in materiality and fabrication techniques. Today, among many contemporary architects, there is an engagement with new technologies, new material assemblies, and new priorities such as sustainability and energy-efficiency. A resurgent interest in translucency as a defining quality in buildings has been an important part of this recent dialogue and this book makes essential reading for any architect looking to incorporate aspects of translucency into their buildings.

Design-Tech

Eco-efficient Construction and Building Materials

Exploring {solid} Ground in Mission Bay

Building Science for Architects

The Screen Media Reader

Culture, Theory, Practice

Structural Design Concepts

This text focuses on the wide-ranging aspects of facade design, from the selection and use of materials to the advanced technical possibilities now open to the architect. International examples with plans and details show the theory in practice.

Perkins+Will, a global architecture and design practice, releases the first volume in a series of publications showcasing the talent of its teams and scope of their projects. Ideas + Buildings defines the essential characteristics of innovation and excellence that make Perkins+Will unique among architecture firms worldwide. The Ideas + Buildings series will include essays on design theory; white papers on programmatic and technological innovation, client business issues and the environment; and ideas that relate directly to the practice and its work as well as broader social and cultural issues. Ideas + Buildings Collective Process / Global, Social and Sustainable Design includes 12 unique projects along with anecdotal information about the firm and its history - providing insight into the firm, who they are and what they do. The book demonstrates the progress and energy of Perkins+Will as the firm advances towards its 75th anniversary. A timely look at the ways in which glass is utilized in some of today's most beautiful and experimental building designs For centuries, glass has provoked fascination with its properties as a versatile material that permits light to enter buildings in spectacular ways. Much of modern architecture has been conceived by using glass to create increasingly minimal structures, to promote the notion of lightweight construction solutions, and to allow maximum daylight into buildings. New Glass Architecture showcases the changing ways that aesthetics and methods for using glass have been developing since the 1990s. The book begins with an introduction that traces the history of key moments in glass architecture--from the stained glass windows of Chartres Cathedral to the Crystal Palace of 1851, and early constructions by John Soane, Bruno Taut, Le Corbusier, and Mies van der Rohe. Author Brent Richards explains the importance of glass artists in the second half of the 20th century and describes developments in glass technology over the last twenty years. Beautifully

illustrated with newly commissioned photographs by Dennis Gilbert, the book features twenty-five case studies of recent glass constructions from around the world by such leading architects as Foster and Partners, Frank Gehry, Herzog & de Meuron, Steven Holl, Toyo Ito & Associates, Jean Nouvel, Raphael Viñoly, and Peter Zumthor. Each building is illustrated in full color and accompanied by detailed drawings. New Glass Architecture features these buildings and more: - Chapel of Ignatius, Seattle - Condé Nast Café, New York - DZ Bank, Berlin - Kimmel Center for the Performing Arts, Philadelphia - Kunsthaus, Graz, Austria - Laban Dance Centre, London - Torre Agbar, Barcelona

Looks at the issues of sustainability and environmental impact in the field of building design and architecture. This book addresses sustainability in building design through development of a series of examples presented as three dimensional models of well-integrated building systems.

Ideas + Buildings

New Solar Design

Basics, Systems, Projects

Architecture, Constructions, Ambiances

Skins, Envelopes, and Enclosures

Material Innovations in Modern and Contemporary Architecture

Life Cycle Assessment (LCA), Eco-Labeling and Case Studies

Integrate the best building envelope construction methods, materials science, and structural principles in your work using this book as a resource to help you... With more than seventy significant case studies located in North America, South America, Europe, and Asia from prehistory to the present, this book illuminates the theory and techniques of assembling exteriors. Six chapters organized by wall types, from hand-set monolithic walls to digitally fabricated curtain walls, each have a material focus section to help you understand their intrinsic properties so that you can decide which will best keep the weather out of your building. Examples from the ancient world, including the Pyramids and the Great Wall, through a range of renowned modern architects, such as Studio Gang, Sauerbruch Hutton, Herzog and deMeuron, and Rafael Moneo, illustrate how significant works in the history of architecture explored innovative use of materials - stone, brick, concrete, glass, and aluminium. Along the way, principles of construction from masonry and basic framing through ever more sophisticated envelope systems address classic problems presented by gravity, wind, rain, and sun with studies of lateral forces, building movements and materials that bridge the gaps in between them.

Presenting an analysis of different approaches for predicting the service life of buildings, this monograph discusses various statistical tools and mathematical models, some of which have rarely been

applied to the field. It explores methods including deterministic, factorial, stochastic and computational models and applies these to façade claddings. The models allow (i) identification of patterns of degradation, (ii) estimation of service life, (iii) analysis of loss of performance using probability functions, and (iv) estimation of service life using a probability distribution. The final chapter discusses the differences between the different methodologies and their advantages and limitations. The authors also argue that a better understanding of the service life of buildings results in more efficient building maintenance and reduced environmental costs. It not only provides an invaluable resource to students, researchers and industry professionals interested in service life prediction and sustainable construction, but is also of interest to environmental and materials scientists.

Eco-efficient Construction and Building Materials reviews ways of assessing the environmental impact of construction and building materials. Part one discusses the application of life cycle assessment (LCA) methodology to building materials as well as eco-labeling. Part two includes case studies showing the application of LCA methodology to different types of building material, from cement and concrete to wood and adhesives used in building. Part three includes case studies applying LCA methodology to particular structures and components. Reviews ways of assessing the environmental impact of construction and building materials Provides a thorough overview, including strengths and shortcomings, of the life cycle assessment (LCA) and eco-labeling of eco-efficient construction and building materials Includes case studies showing the application of LCA methodology to different types of building material, from cement and concrete to wood and adhesives used in building

When planning buildings in which people are to work and live, the efficient use of natural daylight and solar energy is increasingly important. The challenge is to compensate the different lighting requirements in winter and summer. Integrated daylight deflection systems buildings, utilize and store solar energy to save artificial lighting, air-conditioning and heating costs. Extensively researched and impressively illustrated with a large number of computer simulations and photographs of built examples, this volume is more than an introduction to the basic principles, functions, designs and calculation methods of advanced light-guidance technology for architects, lighting designers, building and climate engineers. In particular it provides detailed documentation of the new Retro-Technology systems, explaining the role they can and do play in integrated façade and building design and planning processes. distributed by Syndetic Solutions, Inc.

Towards Zero-energy Architecture

Design-tech

Transformative Technologies and Research Trajectories

Building Systems Integration for Enhanced Environmental Performance

Architecture and Labor in the Digital Age

Phenomenal Skin

Dynamic Daylighting Architecture

The construction industry is a vibrant and active industry. The building sector is responsible for creating, modifying and improving the living environment of humanity. This volume presents solutions that facilitate and promote the adoption of policies, methods and tools to accelerate the movement towards a global sustainable built environment.

Architects write a lot, especially now when conceptual aspects have become central in the advanced reflections and narrative forms increasingly intersect the quest of design practices for an ultimate legitimation. In the growing mass of the publishing offer, these keywords try to highlight recurrent issues, tracking synthetic paths of orientation between different critical positions, with particular attention to what happens in the neighbouring fields of the arts and sciences. Recent years have seen the construction of buildings made of plastic, structures that are as attractive as they are unusual. After initial experiments in the 1970s, plastic is currently experiencing a tremendous boom. Originally used for temporary structures like the BMW Pavilion in Frankfurt, it is now employed in many permanent buildings as well, including the recent Catholic church in Radebeul by Staib/Behnisch. Prominent international avant-garde architects such as Shigeru Ban and Herzog & de Meuron frequently use transparent plastic for their structures. Transparent plastic seems ephemeral and thus captures the spirit of the times. Its various qualities between transparent and translucent make it possible to achieve fascinating effects with light and color. Projects presented include the Allianz Arena in Munich by Herzog & de Meuron, the Rocket Tower in Leicester by Grimshaw & Partners, the Paper Art Museum by Shigeru Ban in Shizuoka, Japan, and the public housing development Cité Manifeste in Mulhouse by Lacaton Vassal. Seit einigen Jahren entstehen ebenso attraktive wie ungewöhnliche Bauten aus Kunststoff. Nach ersten Versuchen in den 1970er Jahren erlebt der Baustoff derzeit einen ungeheuren Boom. Zunächst für temporäre Bauten wie dem BMW Pavillon in Frankfurt genutzt, entstehen mittlerweile auch zahlreiche bleibende Gebäude (wie kürzlich die Katholische Kirche von Staib/Behnisch in Radebeul). Bekannte Architekten der internationalen Avantgarde wie Shigeru Ban oder Herzog & de Meuron verwenden gerne transparenten Kunststoff für ihre Bauten. Das Material scheint ephemere, transitorisch (ohne es zu sein) und trifft damit den Nerv der heutigen Zeit. Seine unterschiedlichen Qualitäten zwischen transparent und transluzent erlauben faszinierende Licht- und Farbeffekte. Zu den dargestellten Projekten gehören die Allianz-Arena in München von Herzog & de Meuron, der Rocket-Tower in Leicester von Grimshaw & Partner, das Papiermuseum von Shigeru Ban in Shizuoka, Japan, und der soziale Wohnungsbau der Cité Manifeste in Mulhouse von Lacaton Vassal. 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.

Nano and Biotech Based Materials for Energy Building Efficiency

Challenge of the Industry for the New Millennium

Between Material and Site

Design and Technology

Architecture and Engineering

Concepts for Designing Building Exteriors

The Challenges - Trends - Achievements

The facade is the building's interface with its environment. It is here that building physics parameters such as heat, humidity, sound and light interact with the building. All these influences need to be controlled by the building envelope in order to ensure the comfort of the user and the functional performance of the architecture. This introduction explains the most important phenomena and then relates them to design and building practice – which materials react in which way to these factors? How do facade systems deal with heat, humidity, sound and light? This practice-oriented book, which is the result of cooperation between an architect and a structural engineer, describes the most important facade materials and constructions under the aspect of their building physics performance. Drawing on examples from around the world, this book explores the ways in which climate shapes architecture. With international case studies, the illustrated guide is distinctive in its focus on comfort rather than energy.

This book presents the current state of knowledge on nanomaterials and their use in buildings, ranging from glazing and vacuum insulation to PCM composites. It also discusses recent applications in organic photovoltaics, photo-bioreactors, bioplastics and foams, making it an exciting read while also providing copious references to current research and applications for those wanting to pursue possible future research directions. Derek Clements-Croome, Emeritus Professor in Architectural Engineering, University of Reading (From the Foreword) Demonstrating how higher energy efficiency in new and

existing buildings can help reduce global greenhouse gas emissions, this book details the way in which new technologies, manufacturing processes and products can serve to abate emissions from the energy sector and offer a cost-effective means of improving competitiveness and drive employment. Maximizing reader insights into how nano and biotech materials – such as aerogel based plasters, thermochromic glazings and thermal energy adsorbing glass, amongst others – can provide high energy efficiency performance in buildings, it provides practitioners in the field with an important high-tech tool to tackle key challenges and is essential reading for civil engineers, architects, materials scientists and researchers in the area of the sustainability of the built environment.

Design-Tech is an indispensable, holistic approach to architectural technology that shows you in hundreds of drawings and tables the why as well as the how of building science, providing you with a comprehensive overview. In this expanded edition, measurements and examples are listed in both metric and imperial units to reflect the global reality of architectural practice. The authors also address digital fabrication, construction documentation, ultra-high-rise structures, and zoning codes. And there's more in-depth coverage of structural design and greater emphasis on environmental forces. Numerous case studies demonstrate real-world design implications for each topic, so that you can integrate technical material with design sensibilities. Short chapters explain each topic from first principles in easy-to-reference formats, focusing on what you need to know both at the drawing board and in future discussions with engineers, contractors, and consultants. This new edition incorporates material from continuing curricular experimentation in the SCI-TECH sequence at Iowa State University, which has been recognized with awards and funding from the American Institute of Architects, the U.S. Green Building Council, and the National Council of Architectural Registration Boards.

Refurbishment, Extensions, New Design

Light in Engineering, Architecture and the Environment

Rethinking Building Skins

Translucent Building Skins

Principles of Construction

Building Simply

«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.

***Rethinking Building Skins: Transformative Technologies and Research Trajectories* provides a comprehensive collection of the most relevant and forward-looking research in the field of facade design and construction today, with a focus on both product and**

process innovation. The book brings together the expertise, creativity, and critical thinking of more than fifty global innovators from both academia and industry, to guide the reader in translating research into practice. It identifies new opportunities for the construction sector to respond to present challenges, towards a more sustainable, efficient, connected, and safe future. Introduces the reader to the role of façades with respect to the main challenges ahead; Provides an overview of the major façade technological advancements throughout history and identifies prospective research trajectories; Includes interviews with key industry players from different backgrounds and expertise; Showcases a comprehensive range of leading research topics in the field, organised by product and process innovation; Covers major innovations across the value chain including façade design, fabrication, construction, operation and maintenance, and end-of-life; Contributes towards the definition of an international research agenda and identifies emerging market opportunities for the façade industry.

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.

As mobile communication, social media, wireless networks, and flexible user interfaces become prominent topics in the study of media and culture, the screen emerges as a critical research area. This reader brings together insightful and influential texts from a variety of sources-theorists, researchers, critics, inventors, and artists-that explore the screen as a fundamental element not only in popular culture but also in our very understanding of society and the world. The Screen Media Reader is a foundational resource for studying the screen and its cultural impact. Through key contemporary and historical texts addressing the screen's development and role in communications and the social sphere, it considers how the screen functions as an idea, an object, and an everyday experience. Reflecting a number of descriptive and analytical approaches, these essays illustrate the astonishing range and depth of the screen's introduction and application in multiple media configurations and contexts. Together they demonstrate the long-standing influence of the screen as a cultural concept and communication tool that extends well beyond contemporary debates over screen saturation and addiction.

Facade Construction Manual

Responsive Architecture

Some NASA Contributions

With a Focus on Façade Claddings

Global, Social and Sustainable Design. Collective process. 2008

Building Physics of the Envelope

Building in Existing Fabric

Taking a fresh, holistic approach to the topic of architectural technology, this indispensable book looks at the 'why' as well as the 'how' of building science, providing a comprehensive, clear and concise introduction to the subject. The demands faced by architects in their training and education are constantly changing. Written by two practicing architects who teach building technology and design, this text ensures that the reader is given the full picture of the discipline, as it integrates technical material with design sensibilities. Incorporating structural design, environmental principles, material science and human factors, this book shows how these topics rely upon and influence one another in architectural design. It also relates the technical with the theoretical, illustrating how technology and design have influenced one another historically. Offering highly practical guidance to the essentials of building design, this book is the first to provide the full spectrum of building science for architects in one volume. Design-Tech includes hundreds of illustrations and numerous case studies that show how these theories work in practice. * A single volume integrating structural, environmental and construction engineering basics for architects * A holistic approach to technology, illustrating how it relates to the history and theory of architecture * Presents sustainable design as a given, with environmental design principles included throughout the text

Building Skins Concepts, Layers, Materials Birkhauser

This book is a collection of articles that have been published in the Special Issue "Responsive Architecture" of the MDPI journal Buildings. The eleven articles within cover various areas of sensitive architecture, including the design of packaging structures reacting to supporting components; structural efficiency of bent columns in indigenous houses; roof forms responsive to buildings depending on their resiliently transformed steel shell parts; creative design of building free shapes covered with transformed shells; artistic structural concepts of the architect and civil engineer; digitally designed airport terminal using wind analysis; rationalized shaping of sensitive curvilinear steel construction; interactive stories of responsive architecture; transformed shell roof constructions as the main determinant in the creative shaping of buildings without shapes that are sensitive to man-made and natural environments; thermally sensitive performances of a special shielding envelope on balconies; quantification of generality and adaptability of building layout using

the SAGA method; and influence of initial conditions on the simulation of the transient temperature field inside a wall.

The book is addressed to architects and civil engineers. Design and research are areas connecting their activities. The contents of the book confirm the fact that the interface between architecture and engineering is multidimensional. The ways of finding points of contact between the two industries are highlighted. This is favored by the dynamically changing reality, supported by new design paradigms and new research techniques. The multithreaded subject matter of the articles is reduced to six sections: Research Scopes, Methods, Design Aspects, Context, Nature of Research, and Economy and Cost Calculation. Each of the articles in these six blocks has its weight. And so, in the Nature of Research section, the following areas have been underscored: laboratory tests, in situ research, field investigations, and street perception experiments. The section Design Aspects includes design-oriented thinking, geometrical forms, location of buildings, cost prediction, attractor and distractor elements, and shaping spatial structures. The new design and research tools are an inspiration and a keystone bonding architects and engineers.

Building Skins

Bioclimatic Double-Skin Façades

The Rent of Form

Bio-based Building Skin

Construction Materials, Methods and Techniques: Building for a Sustainable Future

An Integrated Approach

Comparative Methodologies in Architecture, Art, Design and Science

a disused power station is converted into a cultural centre, an old barn is made into a residential house. All around us we encounter buildings whose original purpose has rendered them obsolete, and which now offer space for new uses. The construction and building requirements confronting the architect are as varied and individual as the buildings themselves. This publication examines a wide range of realized examples, highlighting successful and innovative solutions, from the rehabilitation of preserved monuments to the renovation or renewal of existing buildings, from the reuse of a gothic monastery or the former industrial buildings of Fiat Lingotto to the renovation of structures made of pre-cast concrete panels. Introductory essays by specialist authors examine the economical, technical, historical aspects of the topic, and the projects presented are documented fully with illustrations, plans and details which have been specially produced by the editorial department of DETAIL.

The external facades of a building are more than a protective mantle, or an intelligent skin regulating temperature and light, they also determine its very appearance. By unusual choices of materials and the use of complex technology, facades have become

increasingly significant in recent years. External surfaces are being perceived as an integral part of the building and are therefore being designed as such. This volume focuses on the wide-ranging aspects of facade design, from the selection and use of materials to the advanced technical possibilities now open to the architect. A wide array of carefully selected international examples show the theory in the practice. All plans, details, and large scale sections of the facades have been researched with the high degree of competence typical of the editorial staff from the review Detail. Expert authors provide the essential information needed to plan and design facades and elucidate on the latest developments in technology and materials.

A critique of prominent architects' approach to digitally driven design and labor practices over the past two decades With the advent of revolutionary digital design and production technologies, contemporary architects and their clients developed a taste for dramatic, unconventional forms. Seeking to amaze their audiences and promote their global brands, "starchitects" like Herzog & de Meuron and Frank Gehry have reaped substantial rewards through the pursuit of spectacle enabled by these new technologies. This process reached a climax in projects like Gehry's Guggenheim Bilbao and the "Bilbao effect," in which spectacular architectural designs became increasingly sought by municipal and institutional clients for their perceived capacity to enhance property values, which author Pedro Fiori Arantes calls the "rent of form." Analyzing many major international architectural projects of the past twenty years, Arantes provides an in-depth account of how this "architecture of exception" has come to dominate today's industry. Articulating an original, compelling critique of the capital and labor practices that enable many contemporary projects, Arantes explains how circulation (via image culture), consumption (particularly through tourism), the division of labor, and the distribution of wealth came to fix a certain notion of starchitecture at the center of the industry. Significantly, Arantes's viewpoint is not that of Euro-American capitalism. Writing from the Global South, this Brazilian theorist offers a fresh perspective that advances ideas less commonly circulated in dominant, English-language academic and popular discourse. Asking key questions about the prevailing logics of finance capital, and revealing inconvenient truths about the changing labor of design and the treatment of construction workers around the world, *The Rent of Form* delivers a much-needed reevaluation of the astonishing buildings that have increasingly come to define world cities.

Visually enriched with over 250 photographs and drawings, *Bioclimatic Double-Skin Façades* is an essential reference guide for understanding the types and functions of double-skin façades. Author Mary Ben Bonham examines the history and continuing potential of double-skin architecture, informing on the variety of approaches possible and advising a rigorous integrated design process leading to application. Featuring a wide selection of architectural examples, the book will be of interest to professionals and students within the fields of architecture, engineering, and construction. Characterized by a buffer-like air space between two glazed building skins, double-skin windows and façades aim to improve building comfort and energy performance. Double skins introduce complexity and initial costs, yet significant buildings in locations around the globe continue to select this approach. In addition to exploring motivations, benefits, and cautions for designing with double skins, the book provides a primer on fundamental façade design concepts and strategies for control of thermal, luminous, and acoustic environments.

Chapters also address alternative types of high-performance façades and implications for each phase of façade design and construction. Bioclimatic Double-Skin Façades promotes bioclimatic design that is inspired by nature, measured in performance, and uniquely adapted to climate and place. In-depth case studies illustrate how double-skin façades have been adapted to a range of climates and cultural settings: Marseille Library and Grenoble Courthouse in France, Cambridge Public Library in Massachusetts, Manitoba Hydro Place in Canada, and the Pearl River Tower in China.

Japan

New Glass Architecture

16 keywords of contemporary architecture

Building Envelopes

Constructed Terrain

Climate and Architecture

Portugal SB07 Sustainable Construction, Materials and Practices

This book is published on the occasion of the emeritus status awarded to Professor Richard Foque, ir. arch, MSc. His successful career as founder and partner of an architect firm, professor in design theory and Head of the Department of Design Science has provided opportunities to meet colleagues both at home and abroad. No less than twenty-two colleagues were more than pleased to write a personal contribution in the framework of their own field of expertise, to explore the boundaries between art and science, knowledge and research, theory and practice, representation and reality. Thus, the Liber Amicorum became a "book of friends" linking the evolution in science to an unheard of self-expression in architecture, product development and culture. Dit boek wordt uitgegeven ter gelegenheid van het emeritaat van prof. ir.arch. Richard Foque. Zijn rijke loopbaan als manager van een architectenbureau, professor in de ontwerptheorie en departementshoofd heeft geleid tot talrijke ontmoetingen met collega's in binnen- en buitenland. Tweeëntwintig ervan werden bereid gevonden om vanuit hun eigen kennis- en beroepsveld een persoonlijke bijdrage te schrijven, die de grenzen tussen kunst en wetenschap, kennis en onderzoek, theorie en praktijk, voorstelling en werkelijkheid, beleid en werkelijkheid zouden aftasten. Zo groeide het Liber Amicorum uit tot een volwaardig boek, waarin de actuele evolutie in de wetenschap in relatie wordt gebracht met een nooit tevoren gekende zelfexpressie in architectuur, productontwikkeling en cultuur.

Introduction to building façades as revised edition Façades determine the appearance of a building. Hence, they constitute a major element in architecture. At the same time, the building's envelope has important functions to fulfil, such as lighting, weatherproofing, thermal insulation, load transfer and sound insulation. Over the past 15 years, façades have become increasingly complex – 'intelligent' facades, for instance, adapt to changing climate and lighting conditions. Newly developed materials and technologies have broadened the scope of façade functions. This book

demonstrates the principles of façade construction. It systematically describes the most common types, such as post-and-beam façade, curtain wall, corridor façade or double façade, and provides guidelines for appropriate detailing. Numerous drawings made especially for the book explain the principles of different types of facades, which are then illustrated with built examples. For this second edition, all chapters were revised and all four examples in the case studies chapter were replaced by new material. The new chapter “Future Façades” offers insights into what’s next. This comprehensive text provides a thorough overview of sustainable methods for site, residential and commercial building construction, covering both traditional and contemporary materials, current industry standards and new and emerging technologies. Organized according to the Construction Specifications Institute (CSI) MasterFormat standards, the text follows a logical structure that charts the sequence of construction step-by-step from project inception to completion. Readers will find ample, up-to-date information on the latest industry advances and best practices, as well as relevant building codes, all within a dynamic, reader-friendly new design. This proven text can help your students gain a clear understanding of today’s construction materials, methods and techniques, providing a critical foundation for career success. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Japan is becoming a popular travel destination for more and more architects today. With its wide variety of architecture, it is both a source of fascination and inspiration. Over a number of years, the review Detail has been consistently documenting the construction activities which have taken place in Japan, and this book draws on the best of their experience and connections to present and analyse with plans and details the most interesting buildings from various architectural trends in contemporary Japan, including Ando's Museum for Contemporary Art in Naoshima, Toyo Ito's Mediathek, a residential building by Kazuyo Sejima, and a temple gallery in Kyoto by Takashi Yamaguchi. Introductory essays discuss the developments in Japanese architecture, and together with portraits of not only well-known Japanese architects and offices, but also young offices such as Atelier Bow Wow, this volume provides a stimulating discussion of current Japanese building in the context of traditional architecture.

2006 Building Technology Educators' Symposium Proceedings

Façades

Bringing the World Into Culture

Materiality and Interior Construction

Concepts, Layers, Materials

Transparent Plastics

exlibris