

Building Type Gross Floor Area Sample

Publisher description

This book is about a lost world - albeit one less than 50 years old. In the era of Harold Wilson's 'white heat', architect Sir Leslie Martin proposed a grand plan to demolish and rebuild a swathe of historic Whitehall, London's government district. At once optimistic and paternalistic, it simultaneously reinforced and challenged a rigidly hierarchical social order at the scales of building, city and nation. This project was never realized, but nevertheless, the plans and the political history surrounding them offer unique insights into Wilson's government, Wilson's Britain and Martin's distinctive scientific model of architecture, and more broadly into the connections between architecture, politics and society.

Cost optimal and nearly zero energy performance levels are principles initiated by the European Union's (EU) Energy Performance of Buildings Directive which was recast in 2010. These will be major drivers in the construction sector in the next few years, because all new buildings in the EU from 2021 onwards are expected to be nearly zero energy buildings (nZEB). This book introduces the technical definitions, system boundaries, energy calculation methodology and input data needed to set primary energy based minimum/cost optimal and nZEB requirements in national energy frames. Worked examples are provided to illustrate the calculation of delivered, exported and primary energy, and renewable energy contribution. Five case studies of high performance nZEB office buildings across Europe are reported to show alternative technical solutions and to draw some general design rules based on completed nZEB buildings. Specific features of the nZEB design process, especially in the early stages, and architectural competitions are included. These describe important design issues in the scoping and conceptual design phase, allowing design streams to be controlled so that specified targets can be met. This book is intended for readers who need to be aware of or are working with the energy performance of buildings – for decision makers in public and private sectors, architects, engineers, construction clients, consultants, contractors, manufacturers and students. The editor of this book, Professor Jarek Kurnitski has made major contributions to the preparation of the European REHVA nZEB technical definition and has developed energy calculation frames for current Estonian and Finnish energy performance regulations. He is the leader of nZEB research at Tallinn University of Technology in Estonia and Aalto University in Finland, and he has over 300 publications. Winner of Choice Magazine - Outstanding Academic Titles for 2007 Buildings account for over one third of global energy use and associated greenhouse gas emissions worldwide. Reducing energy use by buildings is therefore an essential part of any strategy to reduce greenhouse gas emissions, and thereby lessen the likelihood of potentially catastrophic climate change.

Bringing together a wealth of hard-to-obtain information on energy use and energy efficiency in buildings at a level which can be easily digested and applied, Danny Harvey offers a comprehensive, objective and critical sourcebook on low-energy buildings. Topics covered include: thermal envelopes, heating, cooling, heat pumps, HVAC systems, hot water, lighting, solar energy, appliances and office equipment, embodied energy, buildings as systems and community-integrated energy systems (cogeneration, district heating, and district cooling). The book includes exemplary buildings and techniques from North America, Europe and Asia, and combines a broad, holistic perspective with technical detail in an accessible and insightful manner. Open data and policy implications coming from data-aware planning entail collection and pre- and postprocessing as operations of primary interest. Before these steps, making data available to people and their decision-makers is a crucial point. Referring to the relationship between data and energy, public administrations, governments, and research bodies are promoting the construction of reliable and robust datasets to pursue policies coherent with the Sustainable Development Goals, as well as to allow citizens to make informed choices. Energy engineers and planners must provide the simplest and most robust tools to collect, process, and analyze data in order to offer solid data-based evidence for future projections in building, district, and regional systems planning. This Special Issue aims at providing the state-of-the-art on open-energy data analytics; its availability in the different contexts, i.e., country peculiarities; and its availability at different scales, i.e., building, district, and regional for data-aware planning and policy-making. For all the aforementioned reasons, we encourage researchers to share their original works on the field of open data and energy analytics. Topics of primary interest include but are not limited to the following: 1. Open data and energy sustainability; 2. Open data science and energy planning; 3. Open science and open governance for sustainable development goals; 4. Key performance indicators of data-aware energy modelling, planning, and policy; 5. Energy, water, and sustainability database for building, district, and regional systems; 6. Best practices and case studies.

"The members of 7group and Bill Reed are examples writ large of the kind of leadership that is taking this idea of green building and forming it into reality, by helping change minds, building practice, and design process." —from the Foreword by S. Rick Fedrizzi President, CEO, and Founding Chair, U.S. Green Building Council

A whole-building approach to sustainability

The integrative design process offers a new path to making better green building decisions and addressing complex issues that threaten living systems. In *The Integrative Design Guide to Green Building: Redefining the Practice of Sustainability*, 7group's principals and integrative design pioneer Bill Reed introduced design and construction professionals to the concepts of whole building design and whole systems. With integrative thinking that reframes what sustainability means, they provide a how-to guide for architects, designers, engineers, developers, builders, and other professionals on incorporating integrative design into every phase of a project. This practical manual: Explains the philosophy and underpinnings of effective integrative design, addressing systems thinking and building and community design from a whole-living system perspective Details how to implement integrative design from the discovery phase to occupancy, supported by process outlines, itemized tasks, practice examples, case studies, and real-world stories illustrating the nature of this work Explores the deeper understanding of integration that is required to transform architectural practice and our role on the planet This book, both practical and thoughtful, will help you deliver your vision of a sustainable environment.

7group, based in Kutztown, Pennsylvania, includes principals John Boecker, Scot Horst, Tom Keiter, Andrew Lau, Marcus Sheffer, and Brian Toevs, who bring a unique integration of expertise in design, engineering, energy and daylight modeling, materials assessments, commissioning, education, and communications to their work. Internationally recognized thought leaders in the green building movement, they have led countless teams through the practical implementation of integrative design on building projects of all types around the world. 7group also has been directly and deeply involved with the development of the LEED® Green Building Rating System, including experience on more than 100 LEED projects. Scot Horst currently serves as chair of the U.S. Green Building Council's LEED Steering Committee.

This book presents the proceedings of CRIOCM2018, 23rd International Symposium on Advancement of Construction Management and Real Estate, sharing the latest developments in real estate and construction management around the globe. The conference was organized by the Chinese Research Institute of Construction Management (CRIOCM) working in close collaboration with Guizhou Institute of Technology (GIT). Written by international academics and professionals, the proceedings discuss the latest achievements, research findings and advances in frontier disciplines in the field of construction management and real estate. Covering a wide range of topics, including New-type urbanization, land development and land use, urban planning and infrastructure construction, housing market and housing policy, real estate finance and investment, new theories and practices on construction project management, smart city, BIM technologies and applications, construction management in big data era, green architecture and eco-city, rural rejuvenation and eco-civilization, other topics related to construction management and real estate, the discussions provide valuable insights into the advancement of construction management and real estate in the new era. The book is an outstanding reference resource for academics and professionals alike.

Written by a cost-control expert with more than thirty years of design and building expertise, this volume in the Professional Practice Essentials Series gives you practical, user-friendly guidance on how to better manage costs through all phases of a project. Dell'Isola first explains the basics of cost management—from estimating costs during the design phase to managing costs during construction and even after occupancy. He then covers all of the tools and techniques available to architects/designers and explains how best to use them. A number of useful case studies clearly show how the author's principles work in real-life situations.

In the developing countries, pollution through solid waste, sludge from water and wastewater treatment plants and pollution of natural water resources have become one of the grave issues. The root cause is population explosion, industrialization, urbanization and other anthropogenic activities. The increase rate of solid waste has become a major challenge for sustainable development of the environment. Poor management of solid waste and sludge from water and wastewater treatment plants may be the cause of health hazards and environmental problems. The book presents new methods and technologies to combat the aforementioned problems and focuses on the importance of using the recycled products. The technologies related to waste and sludge treatment are economical, eco-friendly and bring economic returns, and can be applied to most of the developing countries where waste treatment technologies, viz. composting, anaerobic digestion, recycling of plastic and agricultural waste in construction can be used. The aim of the book is to support everyone who is involved in academics, teaching, research related to solid waste management and water and wastewater treatment study in the leading academic and research organizations globally. This book will be of prodigious value to upcoming researchers, scholars, scientists and professionals in Environmental Science and Engineering fields, and global and local authorities and policy makers responsible for the management of solid wastes and sludge. Globally, universities can develop new prospectuses on sustainable and eco-friendly waste and sludge management, which are relating to the book's theme. This book can also be of great source for designing and operation of waste reuse and recycling programmes.

Written for architects and the design and construction team, this is a comprehensive guide to an integrated design process to create more sustainable buildings. The book is organized in a sequence similar to that employed by conventional design, so that it can be utilized as a real-world guide. Learning how to shift into the mindset essential to implementing integrated design, readers will explore into such processes as systems thinking, appreciative inquiry, non-hierarchical leadership, holistic mapping, and linear versus integrated architectural design progression. Multiple case studies are incorporated to provide concrete examples of successful integrated design implementation. Managing the consumption and conservation of energy in buildings is the concern of both building managers and occupants and this use accounts for about half of UK energy consumption. The need to manage this has been given new emphasis by the introduction of the Climate Change Levy. Energy Management in Buildings introduces students and energy managers to the principles of managing and conserving energy consumption in buildings people use for work or leisure. Energy consumption is considered for the provision of space heating, hot water, supply ventilation and air conditioning. The author introduces the use of standard performance indicators and energy consumption yardsticks and discusses the use and application of degree days. This second edition includes two new chapters on current regulations and environmental impact of building services. It closely follows recent bench marking published by CIBSE and the Defra energy efficiency Best Practice Programme and covers unit 18 in the new HND in building services engineering.

Unlike the mechanistic buildings it replaces, Eco-Architecture is in harmony with nature, including its immediate environs. Eco-Architecture makes every effort to minimise the use of energy at each stage of the building's life cycle, including that embodied in the extraction and transportation of materials, their fabrication, their assembly into the building and ultimately the ease and value of their recycling when the building's life is over. Featuring papers from the First International Conference on Harmonisation between Architecture and Nature, the text brings together papers of an inter-disciplinary nature, and will be of interest to engineers, planners, physicists, psychologists, sociologists, economists, and other specialists, in addition to architects. Featured topics include: Historical and Philosophical aspects; Ecological and Cultural Sensitivity; Human Comfort and Sick Building Syndrome; Energy Crisis and Building Technologies; Carbon Neutral Design; Alternative Sources of Energy (wind, solar, wave, geothermal etc); Design with Nature; Design with Climate; Siting and Orientation; Re-use of Brownfield Sites; Material Selection; Minimal Transportation Approaches and use of Indigenous Materials; Life Cycle Assessment of Materials; Design by Passive Systems; Conservation and Re-use of Water; Building Operation and Management; Applications in Different Building Types; Regulations and Contracts.

Despite the size, complexity and importance of the construction industry, there has been little study to date which focuses on the challenge of drawing reliable conclusions from the available data. The accuracy of industry reports has an impact on government policy, the direction and outcomes of research and the practices of construction firms, so confusion in this area can have far reaching consequences. In response to this, *Measuring Construction* looks at fundamental economic theories and concepts with respect to the construction industry, and explains their merits and shortcomings, sometimes by looking at real life examples. Drawing on current research the contributors tackle: industry performance productivity measurement construction in national accounts comparing international construction costs and prices comparing international productivity The scope of the book is international, using data and publications from four continents, and tackling head on the difficulties arising from measuring construction. By addressing problems that arise everywhere from individual project documentation, right up to national industrial accounts, this much-needed book can have an impact at every level of the industry. It is essential reading for postgraduate construction students and researchers, students of industrial economics, construction economists and policy-makers.

Building Type Basics for Office Buildings John Wiley & Sons

This comprehensively rewritten, updated and extended new edition of this established text focuses on what has become the most important single facet of the quantity surveyor's role - cost management. The scope of the book has been broadened to take account of the widening and more sophisticated cost management and control service that clients now require. The book examines the factors influencing building costs and how the precontract costs can be estimated, analysed and controlled, to ensure that buildings can be completed within the agreed budget and timescale, and be of acceptable quality, function effectively and provide value for money. A new chapter on value management has been added, together with an introductory chapter on cost modelling; the chapter on life cycling costing is extended, while the sections on energy conservation and occupancy costs are expanded. Throughout the text many new case studies, with supporting tables and diagrams, are included in order to enhance the value of this book to the student and the practitioner.

From the acclaimed New York Firm of Kohn Pedersen Fox, this volume in the *Building Type Basics* series gives you the essential information you need to initiate designs for every type of office building, from dramatic skyscrapers to utilitarian low-rise complexes. Combines in-depth coverage of all of the structural, mechanical, acoustic, traffic, and security issues unique to today's office buildings with the nuts-and-bolts guidance you need to launch your design project and see it through. Addresses a broad scope of timely issues related to modern office design: standard and alternate workplaces, the "smart" office building, security, healthy interiors, elevators, image and identity, and more. Order your copy today!

An updated guide to designing buildings that heat with the sun, cool with the wind, and light with the sky. This fully updated Third Edition covers principles of designing buildings that use the sun for heating, wind for cooling, and daylight for natural lighting. Using hundreds of illustrations, this book offers practical strategies that give the designer the tools they need to make energy efficient buildings. Hundreds of illustrations and practical strategies give the designer the tools they need to make energy efficient buildings. Organized to quickly guide the designer in making buildings respond to the sun, wind and light.

The Code of Federal Regulations Title 10 contains the codified Federal laws and regulations that are in effect as of the date of the publication pertaining to energy, including: nuclear energy, testing, and waste; oil, natural gas, wind power and hydropower; climate change, energy conservation, alternative fuels, and energy site safety and security. Includes energy sales regulations, power and transmission rates.

The Code of Federal Regulations is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

The one-stop guide for choosing a green building rating system Today, sustainability is a growing concern for the architects, designers, builders, and owners of commercial and residential buildings. Meeting the requirements of a rating system provides a metric to evaluate and set priorities. But the variety and complexity of methods available to assess the eco-friendliness of a building can seem overwhelming. *Guide to Green Building Rating Systems* informs readers about the rating system selection process. Comparing essential issues such as cost, ease of use, and building performance, this book offers solid guidance that will help readers find the rating system that best fits their needs. This easy-to-follow reference includes: An overview of the major national rating systems, including LEED®, Green Globes®, the National Green Building Standard, and ENERGY STAR® An in-depth look at each rating system, including its evolution, objectives, point structure, levels of certification, benefits, and shortcomings How the ratings systems work for different types of buildings—commercial, multi-family residential, and single-family residential construction Illustrated case studies from different climate regions with project descriptions, cost data, and lessons learned by design teams, constructors, and owners An overview of local, regional, and international rating systems *Guide to Green Building Rating Systems* demystifies complex material, making this book an essential reference for building professionals engaged in, or wishing to pursue, sustainable building practices.

This book presents a comprehensive approach towards the industrialization of building. It argues that only industrialization and automation can bring radical changes necessary to the building industry.

Don't let your jobs be held up by failing code inspections. Smooth sign-off by the inspector is the goal, but to make this ideal happen on your job site, you need to understand the requirements of latest editions of the International Building Code and the International Residential Code. Understanding what the codes require can be a real challenge. This new, completely revised *Contractor's Guide to the Building Code* cuts through the "legalese" of the code books. It explains the important requirements for residential and light commercial structures in plain, simple

English so you can get it right the first time.

BUSINESS/ECONOMICS

This book makes the case for why we should care about islands and their sustainability. Islands are hotspots of biocultural diversity and home to 600 million people that depend on one-sixth of the earth's total area, including the surrounding oceans, for their subsistence. Today, they are at the frontlines of climate change and face an existential crisis. Islands are, however, potential "hubs of innovation" that are uniquely positioned to be leaders in sustainability and climate action. This volume argues that a full-fledged program on "island industrial ecology" is urgently needed, with the aim of offering policy-relevant insights and strategies to sustain small islands in an era of global environmental change. The nine contributions in this volume cover a wide range of applications of socio-metabolic research, from flow accounts to stock analysis and their relationship to services in space and time. They offer insights into how reconfiguring patterns of resource use will allow island governments to build resilience and adapt to the challenges of climate change.

This book presents selected papers from the 11th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC 2019), with a focus on HVAC techniques for improving indoor environment quality and the energy efficiency of heating and cooling systems. Presenting inspiration for implementing more efficient and safer HVAC systems, the book is a valuable resource for academic researchers, engineers in industry, and government regulators.

This book contains most of the papers presented in the Eco-Architecture 2010 conference, which was the third edition of the International Conference on Harmonisation between Architecture and Nature. Previous editions, that were very successful were held previously in the New Forest, UK, in 2006 and the Algarve, Portugal in 2008 and demonstrated the importance of a forum like this to discuss the characteristics and challenges of such architectural vision. Eco-Architecture implies a new approach to the design process intended to harmonise its products with nature. This involves ideas such as minimum use of energy at each stage of the building process, taking into account the amount required during the extraction and transportation of materials, their fabrication, assembly, building erection, maintenance and eventual future recycling. Presentations in the conference were related to topics like building technologies, design by passive systems, design with nature, ecological and cultural sensitivity, life cycle assessment, quantifying sustainability in architecture, resources and rehabilitation, and issues from education, research and practice. Case studies from different places around the world were also presented.

Written by an expert who is the architect of the University of Virginia, *Building Type Basics for College and University Facilities* provides an updated essential guide to the design of college and university buildings. Featuring contributions from notable architecture and design experts, this second edition includes a number of new examples of college and university buildings completed this century as well as significant new content, including information on sustainability, preservation, technology, and the influence of interdepartmental collaboration on the built environment.

Special edition of the Federal Register, containing a codification of documents of general applicability and future effect ... with ancillaries.

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