Underfloor Air Distribution Design Guide File Type | b62eab254b3dce5c3ad4f715ef8e3bf6


Tall commercial office buildings present a series of design problems that differ from those that are found in other projects in the built environment. HVAC Design Guide for Tall Commercial Buildings provides guidance in both understanding the HVAC design problems of tall commercial office buildings and in detailing their alternative solutions.

Marketing Green Building Services: Strategies for Success presents all the information key decision-makers need to respond to the fast-growing market for green buildings, design and construction services and products. Completely updated, revised and expanded from the author’s previous works, this book is the one resource you need to succeed in the green building marketplace. With a sound grounding in contemporary marketing theory and practice, the book assembles hard-to-find information to assist executives and partners in design and construction firms in crafting competitive strategies that build on their firm’s strengths, while sharpening up their weaknesses. Since most design and construction firms specialize in particular market sectors, the book systematically examines the important market segments for green buildings. It also presents key business case justifications for green buildings that help architects, engineers and builders to understand client motivations and respond to them with appropriate marketing tactics and communications strategies. The book examines how the green building market is adopting certain new products and design approaches, information that will help manufacturers and product sales teams to craft appropriate marketing strategies. The book also helps owners and developers understand the green building business case and to find out what other leading-edge firms and projects have learned — how to market and sell green buildings and green developments in a highly competitive marketplace.

Because the edge you need begins with the space you occupy... the Office Interior Design Guide enables facilities professionals with little or no design experience to become knowledgeable, active partners with consultants and designers in developing efficient, flexible office spaces that work. It is intended to help serve as an overarching view of the office environment for the design engineering professional. This practical book covers the entire planning and management process for both conventional and alternative officing, with important information on The Americans with Disabilities Act of 1990, indoor air quality, fire safety, and more. From buildingsupport systems to key elements of interior design, this comprehensive guide shows you how to: * Create a strategic facilities plan * Put together an effective in-house team * Define project needs and objectives * Build solid relationships with management, technical, and creative consultants * Choose the right design firm * Select appropriate facilities * Develop an on-target schedule and budget * Achieve adaptable, cost-effective design solutions. Complete with sample letters for requesting proposals and qualifications, plus a detailed programming questionnaire to help you specify project requirements, the Office Interior Design Guide enables you to create hardworking environments equipped to handle today’s business challenges and tomorrow’s organizational needs.

Ideal for architects, engineers, or contractors seeking the LEED Building Design & Construction (BD+C) credential, the book is a clearly organized study guide that includes sample quizzes throughout at the end of each section. Authored by an expert who teaches seminars on LEED BD+C to professionals, this LEED exam prep book stands out from its competitors in its engaging and stimulating approach. Material includes include drawings, charts, and diagrams to help the reader visually understand the concepts.

Analysis and Design of Heating, Ventilating, and Air-Conditioning Systems, Second Edition, provides a thorough and modern overview of HVAC for commercial and industrial buildings, emphasizing energy efficiency. This text combines coverage of heating and air conditioning systems design with detailed information on the latest controls technologies. It also addresses the art of HVAC design along with carefully explained scientific and technical content, reflecting the extensive experience of the authors. Modern HVAC topics are addressed, including sustainability, IAQ, water treatment and risk management, vibration and noise mitigation, and maintainability from a practical point of view.

This book provides readers with essential knowledge enabling the successful design of today’s new energy efficient HVAC systems. The author introduces important concepts such as Knowledge Categorization, Performance Grading, Design Standards, and Quantification of Uncertainty. Analytical Models for Buildings. Practical topics that all HVAC and architectural engineers must master in order to navigate the green building renaissance are given focused attention, including the role of renewables, air quality, automatic controls, and thermal comfort. Relevant ASHRAE standards, as well as sustainability scoring systems such as BREEAM, HQE, LEED and CASBEE are explained in depth. Armed with the material contained in this practical reference, students and practitioners alike will become more effective and prepared for engineering success.

The definitive guide to the design of environmental control systems for buildings—now updated in its 13th Edition Mechanical and Electrical Equipment for Buildings is the most
widely used text on the design of environmental control systems for buildings—helping students of architecture, architectural engineering, and construction understand what they need to know about building systems and controlling a building’s environment. With over 2,200 drawings and photographs, this 13th Edition covers basic theory, preliminary building design guidelines, and detailed design procedure for buildings of all sizes. It also provides information on the latest technologies, emerging design trends, and updated codes. Presented in nine parts, Mechanical and Electrical Equipment for Buildings. Thirteenth Edition offers readers comprehensive coverage of: environmental resources; air quality; thermal, visual, and acoustic comfort; passive heating and cooling; water design and supply; daylighting and electric lighting; liquid and solid waste; and building noise control. This book also presents the latest information on fire protection, electrical systems; and elevator and escalator systems. This Thirteenth Edition Features: Over 2,200 illustrations, with 200 new photographs and illustrations All-new coverage of high-performance building design Thoroughly revised references to codes and standards: ASHRAE, IES, USGBC (LEED), Living Building Challenge, WELL Building Standard, and more. Updated offering of best-in-class ancillary materials for students and instructors available via the book’s companion website Architect Registration Examination® (ARE®) style study questions available in the instructor’s manual and student guide Mechanical and Electrical Equipment for Buildings, has been the industry standard reference that comprehensively covers all aspects of building systems for over 80 years. This Thirteenth Edition has evolved to reflect the ever-growing complexities of building design, and has maintained its relevance by allowing for the conversation to include “why” as well as “how to.” The EAAE/ARCC International Conference, held under the aegis of the EAAE (European Association for Architectural Education) and of the ARCC (Architectural Research Centers Consortium), is a conference organized every other year, in collaboration with one of the member schools / universities of those associations, alternatively in North America or in Europe. The EAAE/ARCC Conferences began at the North Carolina State University College of Design, Raleigh with a conference on Research in Design Education (1998); followed by conferences in Paris (2000), Montreal (2002), Dublin (2004), Philadelphia (2006), Copenhagen (2008), Washington (2010), Milan (2012) and Honolulu (2014). The conference discussions focus on research experiences in the field of architecture and architectural education, providing a critical forum for the dissemination and engagement of current ideas from around the world. "Guide provides assistance in the design of UFAD systems that are energy efficient, intelligently operated, and effective in their performance. It also describes important research results that support current thinking on UFAD design"—

The proceedings of the 8th International Symposium on Heating, Ventilation and Air Conditioning is based on the 8th International Symposium of the same name (ISHVAC2013), which took place in Xi’an on October 19–21, 2013. The conference series was initiated at Tsinghua University in 1991 and has since become the premier international HVAC conference initiated in China, playing a significant part in the development of HVAC and indoor environmental research and industry around the world. This international conference provided an excellent platform for academics, designers and practitioners to share their research findings, and exchange ideas for the development of HVAC systems. This conference, focusing more on building energy consumption, energy efficiency and indoor environments. These categories span a broad range of topics, and the proceedings provide readers with a good general overview of recent advances in different aspects of HVAC systems and related research. As such, they offer a unique resource for further research and a valuable source of information for those interested in the subject. The proceedings are intended for researchers, engineers and graduate students in the fields of Heating, Ventilation and Air Conditioning (HVAC), indoor environments, energy systems, and building information and management. Angui Li works at Xi’an University of Architecture and Technology, Yingxin Zhu works at Tsinghua University and Yuguang Li works at The University of Hong Kong.

Get the updated guide to active and passive control systems for buildings. To capitalize on today’s rapidly evolving, specialized technologies, architects, designers, builders, and contractors work together to plan the mechanical and electrical equipment that controls the indoor environment of a building. The Building Environment: Active and Passive Control Systems, Third Edition helps you take advantage of design innovations and construction strategies that maximize the comfort, safety, and energy efficiency of buildings. From active HVAC systems to passive methods, lighting to on-site power generation, this updated edition explains how to strategically plan for and incorporate effective, efficient systems in today’s buildings. It covers the underlying thermal theories and thermodynamic principles and focuses on design that enhances the building environment and minimizes the impact on the world’s environment. The Building Environment goes beyond the ABCs of HVAC and covers: On-site power generation, including wind turbines, solar photovoltaic cells, fuel cells, and more. Plumbing systems, fire protection, signal systems, conveying systems, and architectural acoustics. Procedures and/or formulas for performing heat loss, heat gain, and energy use calculations, determining the rate of heat flow, calculating solar energy utilization, doing load calculations, and more. Details on the latest building codes and standards references. New information on the sustainable design of building systems and energy efficiency, including new technologies. The latest thinking and data on a building’s impact on the environment, indoor air quality, and “sick building syndrome.” Design economics, including the payback period, life-cycle cost, comparative value analysis, and building commissioning. A practical on-the-job tool for architects, designers, builders, engineers, contractors, and other specialists, this Third Edition is also a great reference for architecture students who will lead tomorrow’s design teams.

As the use of underfloor air distribution (UFAD) systems increases, so does the importance of effective operation and maintenance (O&M) of these systems after installation. As UFAD technology is applied, designers, technicians, facility managers, and building owners or their representatives all need to know how to ensure that these often mission-critical systems operate as intended. This guide supplements UFAD Guide: Design, Construction and Operation of Underfloor Air Distribution Systems, providing specific, practical advice beyond design, construction, and startup into successful ongoing operation and maintenance. Installers, technicians, and building owners will find this booklet a valuable resource for getting the most out of their UFAD systems and maintaining those systems useful lives.
This book provides a thorough introduction to how Heating, Ventilating, and Air-Conditioning (HVAC) systems control temperature, air quality, and air circulation in a conditioned space.

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.

A unique and revolutionary text which explains the principles behind the LT Method (2.1), a manual design tool developed in Cambridge by the BRE. The LT Method is a unique way of estimating the combined energy usage of lighting, heating, cooling and ventilation systems, to enable the designer to make comparisons between options at an early, strategic stage. In addition, Energy and Environment in Architecture the book deals with other environmental issues such as noise, thermal comfort and natural ventilation design. A variety of case studies provide a critique of real buildings and highlight good practice. These topics include thermal comfort, noise and natural ventilation.

"Building Systems for Interior Designers remains the one go-to resource that addresses the special concerns of the interior designer within the broader context of the rest of the building design team"—

"Guide provides assistance in the design of UFAD systems that are energy efficient, intelligently operated, and effective in their performance. It also describes important research results that support current thinking on UFAD design"—

Practical solutions for sustainability In this timely guide, one of the world’s leaders in advanced building technology implementation shows architects and engineers proven and practical methods for implementing these technologies in sustainably-designed buildings. Because of the very limited time architects are given from being awarded a project to concept design, this book offers clear and workable solutions for implementing solar energy, radiant heating and cooling floors, displacement ventilation, net zero, and more. It provides helpful tips and suggestions for architects and engineers to work together on implementing these technologies, along with many innovative possibilities for developing a truly integrated design. This book also explores and explains the many benefits of advanced technologies, including reduced greenhouse gas emissions, lower operating costs, noise reduction, improved indoor air quality, and more. In addition, Advanced Building Technologies for Sustainability: Offers detailed coverage of solar energy systems, thermal energy storage, geothermal systems, high-performance envelopes, chilled beams, under-floor air distribution, displacement induction units, and much more Provides case studies of projects using advanced technologies and demonstrates their implementation in a variety of contexts and building types Covers the implementation of advanced technologies in office towers, large residential buildings, hospitals, schools, dormitories, theaters, colleges, and more Complete with a clear and insightful explanation of the requirements for and benefits of acquiring the U.S. Green Building Council’s LEED certification, Advanced Building Technologies for Sustainability is an important resource for architects, engineers, developers, and contractors involved in sustainable projects using advanced technologies.

The escalating interdependency of nations drives global geopolitics to shift ever more quickly. Societies seem unable to control any change that affects their cities, whether positively or negatively. Challenges are born, but solutions need to be implemented locally. How can architectural research contribute to the future of our changing society? How has it contributed in the past? The theme of the 10th EAAE/ARCC International Conference, “Architectural Research Addressing Societal Challenges”, was set to address these questions. This book, Architectural Research Addressing Societal Challenges, includes reviewed papers presented in June 2016, at the 10th EAAE/ARCC International Conference, which was held at the facilities of the Faculty of Architecture of the University of Lisbon. The papers have been further divided into the following five sub-themes: a Changing Society; In Transit – Global Migration; Renaturalization of the City; Emerging Fields of Architectural Practice; and Research on Architectural Education. The EAAE/ARCC International Conference, held under the aegis of the EAAE and of the ARCC, is a conference organized every other year, in collaboration with one of the member schools/universities of those associations, alternatively in North America or in Europe.

The Guide to Meeting the Challenges of Tall Buildings Tall buildings present unique and formidable challenges to architects and engineers because of their size, location in major urban areas, and the multiple, complex occupancies they often contain. ASHRAE Design Guide for Tall, Supertall, and Megatall Buildings Systems is a unique reference for owners; architects; and mechanical, structural, and electrical engineers as well as other specialized consultants involved in designing systems for these buildings. Expanded since ASHRAE’s previous guide on the topic in 2004, this new design guide covers not only tall buildings (taller than 300 ft [91m]) but now also addresses supertall (taller than 984 ft [300 m]) and megatall (taller than 1968 ft [600 m]) buildings, with a broadened scope and updated content that reflects current standards and industry practices. This guide not only focuses on the efforts of designers of the HVAC systems but also addresses the importance of the design team and their collective efforts and concerns that are the critical elements in determining the ultimate solutions to the project needs of a tall building. This guide addresses design issues for tall commercial buildings, which are very often mixed use, with low-level retail, office floors, residential floors, and hotel floors. Major sections cover the following subjects: Architectural design; Façade systems; Climate data; Indoor air quality (IAQ); and thermal comfort; HVAC systems; Electrical system interfaces; Intelligent buildings and controls; Water distribution; Plumbing systems; Energy modeling and authentication; Vertical transportation; Life safety; Needs of residential occupancies. Also included are appendices with examples of stack effect and wind pressure for four representative building types, energy analysis examples, and HVAC design criteria and a systems description for a multiple-tenant office building.

This guide is ideal for HVAC design engineers, architects, building owners, facility managers, equipment manufacturers and installers, utility engineers, researchers, and other users of underfloor air distribution (UFAD) technology. UFAD systems are innovative methods for delivering space conditioning in offices and other commercial buildings. Improved Thermal Comfort, Improved Ventilation Efficiency and Indoor Air Quality, Reduced Energy Use and Reduced Life-Cycle Building Costs — The guide explains these as some of the advantages that UFAD systems have over traditional overhead air distribution systems. This guide provides assistance in the design of UFAD systems that are energy efficient.
intelligently operated, and effective in their performance. It also describes important research results that support current thinking on UFAD design and includes an extensive annotated bibliography for those seeking additional detailed information.

This guide is referred to in the 2013 edition of Approved Document L1A and the 2010 edition of Approved Document L1B (as amended in 2013) for dwellings as a source of guidance on complying with Building Regulations requirements for space heating and hot water systems, mechanical ventilation, comfort cooling, fixed internal and external lighting and renewable energy systems.

"Focuses on Environmental considerations in addition to health and safety, emphasizing environmental issues in design as well as green lab design. Contains a new section on Sustainable Design. Includes new chapters on Material Sciences and Engineering and Nanotechnology Provides updated information in all sections, especially the chapters on Animal Research and HVAC."

The objectives of ASHRAE Research Project 1065 were to complete a literature review and to produce a design guide on the topic of conventional room air diffusion. The guide is intended to improve HVAC designers’ ability to achieve acceptable thermal comfort, acoustical conditions, and indoor air quality via appropriate room air diffusion. Conventional ceiling-based approaches for commercial and institutional buildings were emphasized.

This book contains 15 chapters reporting air pollution of interest to experts in academia and industrial plants dealing with the environmental issues. These chapters emphasize the problems of air pollution involving the human sector as an essential part in the control of air pollutants. The book contains an analysis of various geographic regions and evaluation of different activities related to these areas. Descriptive analyzes present the generation of air pollution and its effect on society and materials evaluations. The major sources of emission of pollutants and the damage that they originate in the towns and industrial plants are reported. This volume provides methods and tools for assessment according to each location. Other important aspects are the activities of governmental authorities, the academic and sectors for solving the environment problem.

The Air Conditioning Manual assists entry-level engineers in the design of air-conditioning systems. It is also usable – in conjunction with fundamental HVAC&R resource material – as a senior- or graduate-level text for a university course in HVAC system design. The manual was written to fill the void between theory and practice – to bridge the gap between real-world design practices and the theoretical calculations and analytical procedures or on the design of components. This second edition represents an update and revision of the manual. It now features the use of SI units throughout, updated references and the editing of many illustrations. * Helps engineers quickly come up with a design solution to a required air conditioning system. * Includes issues from comfort to cooling load calculations. * New sections on “Green HVAC” systems deal with hot topic of sustainable buildings.

This book constitutes the refereed proceedings of the 10th International Conference on Web-Based Learning, ICWL 2011, held in Hong Kong, China, in December 2011. The 27 revised full papers presented together with 9 short papers were carefully reviewed and selected from about 120 submissions. The papers report on research results or novel applications in web-based learning and address issues such as technology enhanced learning, personalized and adaptive learning, computer support for intelligent tutoring, intelligent tools for visual learning, Web-based learning for oriental languages learning, game-based learning, personal learning environments, computer supported collaborative learning, Web 2.0 and social learning environments, intelligent learner and group modeling, human factors and affective computing for learning, e-learning platforms and tools, design, model and framework of e-learning systems, deployment, organization and management of learning objects, e-learning metadata and standards, semantic Web and ontologies for e-learning, mobile, situated and blended learning, pedagogical issues, as well as practice and experience sharing.

Pass the LEED® AP ID+C EXAM With These Proven Strategies Here is the ideal study guide for understanding and preparing for the LEED® AP ID+C exam. Written by an expert who is a LEED consultant and partner at Green Education Services—a premier LEED exam preparation provider?Guide to the LEED® AP Interior Design and Construction (ID+C) Exam engages readers by breaking down difficult concepts in sustainable design and engineering in a clearly organized, straightforward manner that helps streamline the learning process for those seeking participation in the operation and maintenance of existing buildings that implement green practices. Guide to the LEED® AP Interior Design and Construction (ID+C) Exam features: A brief overview of the LEED Green Associate material included in the first portion of this LEED AP exam, along with specific ID+C content A collection of sample test questions and study tips to reinforce learned material. An accessible and stimulating approach that fosters quick retention. A set of strategies for summarizing critical information and details more effectively. A wealth of material that includes drawings, charts, and diagrams to help understand concepts visually. A total of 128 sample flashcards that allow you to study on the go. Covering the detailed concepts of the LEED for Commercial Interiors Green Building Rating System, this book is an all-inclusive resource for achieving successful results on the LEED AP ID+C exam. Green Education Services (greenedu.com) is a leading provider of green jobs training related to LEED, EPA energy auditing, solar, and more for building developers, architects, engineers, interior designers, planners, commercial real estate brokers, and other construction industry professionals. A national member of USGBC and CASBEC, accredited by the EPA, and an approved AIA/CES provider, Green Education Services has helped thousands of professionals throughout the United States prepare for their credentialing exams and maintain their credential as an approved GBCI CE provider. Other Michelle Cottrell titles available from Wiley: Guide to the LEED® Green Associate Exam, Guide to the LEED® AP Building Design and Construction (BD+C) Exam, Guidebook to the LEED® Certification Process: For LEED® for New Construction, LEED® for Core & Shell, and LEED® for Commercial Interiors, Guide to the LEED® AP Operations and Maintenance (OM) Exam.

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