

Ashrae 55 2010

The complete resource on performing sustainable renovations for both Historic and modern existing buildings This forward-looking and insightful guide explores how the sustainable renovation of existing buildings presents great opportunities for initiating extensive changes in the performance of the built environment. Great examples of existing building upgrades are examined, illustrating how to do sustainable renovations, along with current design approaches for radically improving the functionality of existing prewar, postwar, and late modern buildings. Sustainable Renovation saves its key focus for institutional and commercial buildings, but discusses the challenges they pose within a global scope that encompasses all building practices. Some of the discussions in this book include: The significance of energy and resource demands by the building sector and the urgency of reducing loads in existing buildings Management, design, and construction approaches to achieve major modernization in occupied buildings International case studies that focus on methods and benefits of successful sustainable transformations of existing building performance Repurposing buildings to preserve style and add performance remains a work in progress as designers and builders discover

Where To Download Ashrae 55 2010

new methods for improving sustainable practices and standards. With incremental modernization and operations strategies available for immediate implementation, this book demonstrates the different ways of thinking necessary when considering and attempting the integration of sustainable concepts into existing buildings—and enables readers to rethink the world that's built around them.

This book discusses the effect of different school building rehabilitation strategies on the classrooms' indoor environmental quality (IEQ) and presents a multi-objective methodology for school building enclosure optimization combining artificial neural networks and lifecycle costs. The special features of this book are that it (a) presents the state-of-the-art in school building rehabilitation, (b) covers the IEQ assessment of several school buildings, including non-rehabilitated and rehabilitated according to different strategies; and (c) proposes a multi-objective optimization procedure. The rehabilitation of a school building should be regarded as a procedure combining a number of (sometimes conflicting) variables and objectives, including energy, IEQ and costs (initial, operational and maintenance), in the search for an “optimum solution.” The main benefit of the book is that it discusses the main topics related to school building rehabilitation, presents results of the IEQ assessment on 9 school buildings and launches a discussion on how the “in-use” performance of schools is key to understanding

Where To Download Ashrae 55 2010

how designed performance is actually experienced. It maps the most commonly used multi-objective algorithms and artificial neural network architectures and proposes a methodology for combining these numerical tools with dynamic building simulations and lifecycle cost analysis to optimize school building enclosures. This methodology will be of value to scientists and engineers alike, while also addressing a variety of related disciplines, such as civil and mechanical engineering, architecture and mathematics.

Pass the LEED AP BD&C Exam, Get Your Building LEED Certified, Fight Global Warming and Save Money! The USGBC released LEED v4 in GreenBuild International Conference and Expo in November, 2013. The GBCI started to include the new LEED v4 content for all LEED exams in late Spring 2014. We have incorporated the new LEED v4 content in this book. Starting on December 1, 2011, GBCI began to draw LEED AP BD+C Exam questions from Green Building and LEED Core Concepts Guide. We have also incorporated the latest information from this book. LEED (Leadership in Energy and Environmental Design) is one of the most important trends in development and is revolutionizing the construction industry. It has gained tremendous momentum and has a profound impact on our environment. From this book, you will learn how to: 1. Pass the LEED AP BD+C Exam. 2. Register and achieve LEED certification for a

Where To Download Ashrae 55 2010

building. 3. Understand the intent of each LEED prerequisite and credit. 4. Calculate points for LEED credits. 5. Identify the credit path, submittal requirements, synergies, possible strategies and technologies, project phase, LEED submittal phase, and responsible party for each prerequisite and credit. 6. Earn extra credit (exemplary performance) for LEED. 7. Implement the related codes and standards. 8. Obtain points for categories not yet clearly defined by the USGBC. Most of the existing books on LEED and the LEED exams are too expensive and complicated to be practical or helpful. This guide fills in the blanks and demystifies LEED. It uncovers the secrets, codes, and jargon for LEED as well as the true meaning of "going green." It provides a solid foundation and fundamental framework for LEED. It covers every major aspect of LEED in plain and concise language, and introduces it to ordinary people. This guide is easy to carry around. You can read it whenever you have a few extra minutes. It is an indispensable book for ordinary people, developers, brokers, contractors, administrators, architects, landscape architects, engineers, interns, drafters, designers, and other design professionals. What others are saying about LEED BD&C Exam Guide ... "Passed on first try, only used this guide "This is the best study guide HANDS DOWN. If you're serious about passing the LEED AP BD&C exam on your first try, this is the one you've been looking for! I bought Mr. Chen's

Where To Download Ashrae 55 2010

LEED Green Associate Exam Guide 2 months ago and passed it on the first try as well. I purchased the USGBC reference guide and Mr. Chen's LEED BD&C Exam Guide. I never opened the USGBC reference guide, only studied from Mr. Chen's study guide. I followed Mr. Chen's instructions and studied the guide for 2 weeks (yes, I have a full-time job). I did ignore the mnemonics, not my learning style (makes it more confusing to me). The exam was not easy, but I prepared and stuck to this material. I am not a good test taker by no means. I reviewed the technical data of the guide about 6 times and ignored everything else I had read or heard about the exam. Here's a piece of advice that I picked up from this book, spend less time on practice tests and more time studying! I have a subscription to a web exam simulator (rated the best) and only did about 100 questions, until I realized that I was wasting my valuable time. Find a good book and stick to it. This is also a great reference guide to use on everyday projects. Review the material, try to understand it, then try to memorize it through repetition. I would like to shake your hand and say THANKS AGAIN MR. GANG CHEN !!! ” —LOBO
“Excellent Guide and Good Manual “I passed the LEED AP BD+C and the LEED AP ID+C exams this year and Gang Chen's books were my primary study material! The books are easy to read and use. Gang Chen provides study hints and guidance as well as an outline format that makes it easy for the reader to

Where To Download Ashrae 55 2010

grasp key points. He also provides an excellent review of the entire accreditation process which can save people time in personal research. The books are more than study guides; they are helpful as reference manuals because of the easy to follow format. Definitely a keeper in my bookshelf for future project reference.” —Karen M. Scott “Great resource for studying for the LEED Exam! “I have taken and passed the LEED AP BD+C exam and know what it takes. As this author says, it's not an easy exam and he is right. What is critical to passing is having great teaching tools and this book is one of them. He touches on every aspect of how to memorize data, how questions are formed, what to expect on tricky questions, the content the test writers are looking for and every little detail you need to know when preparing for this exam. I highly recommend this author's books if you are serious about passing any of the LEED exams, hopefully on the first try!” —S. Jennifer Sakiewicz “LEED BD & C Exam Study Guide “Gang Chan's study guide is an excellent resource in preparing to take the LEED AP BD+C exam particularly if one follows the study recommendation made in the guide. It does not replace the LEED Reference manual as the definitive source for technical information but more importantly provides a structure for the study of the information that is easily understood and when followed should provide good assurance of success in passing the exam the 1st time. This is a 'keeper!'”

Where To Download Ashrae 55 2010

—Spock “Good summary of information to memorize for the test “Chen's exam guide is a good summary of the test relevant information in the LEED reference guide. He underlines specific information that is important to commit to memory for the test. It is a good way to understand which information needs to be strictly memorized if you are preparing for the test in a short amount of time and have a good understanding of the LEED process through your professional experience. I passed the test with a very high score on my first try, and I did use this guide, one other, the LEED reference manual, online sources, a class, and many years of personally working on and completing online LEED submittals through my work. The week before taking the test I used it to commit point values and those kind of details to memory... ” —Denver “Not a bulky ref guide “LEED BD&C Exam Guide does a great job in highlighting and summarizing the key points and concepts in USGBC ref guide. If you only have limited amount of time for LEED AP BD+C exam preparation, definitely go for this book.” —Metcalf “Very valuable guide! “I am a lighting designer and am preparing to take the LEED BD+C exam...I got LEED BD&C Exam Guide to prepare for the LEED AP BD+C Exam and it was fairly well organized to help me refresh my memory on the background LEED knowledge I had. All the specifics that one needs to know about each credit such as the Purpose of the credit, Credit path, Submittals, Strategies and

Where To Download Ashrae 55 2010

technologies etc, are clearly organized for every credit. In addition the author also employs the smart technique of Mnemonics which helps in memorizing the vast amount of information in a simplified manner.” —Visswapriya Prabakar

“Immensely valuable and utterly to the point, a true must have! “This is an excellent publication by Gang Chen that outlines precisely all the key points one need for success. I personally appreciate the easy to adopt memorization technique offered by the author. Practice exams are very comprehensive yet summarized and not to mention highly effective learning tool as it is designed in this book. It is a very delightful experience for me to have this outstanding publication. In a word, this definitely worth the money and for me it turns out extraordinarily helpful.” —Shanaz, who passed LEED AP BD+C Exam on the first try

“Very Helpful! “I found LEED BD&C Exam Guide to be very detailed and very helpful. I plan to take the exam soon, and I feel fully prepared for it.” — Yousuf Asadzoi “Good book! “I had appeared for GA and passed. I loved the content and the underlined highlights. I read your book; it gave me insight and knowledge on how credits are applied. Some questions in your book helped me answer ones on the test. Good book, I'll go through it once again when I appear for AP.”

—Haresh Vibhakar, AIIA (India), AIA, LEED Green Associate, Architect “A good outline “The book is an excellent outline to learn the necessary items required to

Where To Download Ashrae 55 2010

study for the exam. It is not a comprehensive study guide in and of itself. Practice exam is good indicator of test preparation.” —Paul Levine “Solid LEED Study Guide “This is the kind of book I wish was available when I did my original LEED AP exam. It teaches you how to study, which is so important when school is a distant memory. The bulk of the book helps you review and memorize with mnemonics the concepts for each credit that you need to know for the exam. The questions are good representations of questions on the exam. I would recommend to anyone studying for their exam, that they: - First read the chapters in this book on how to study; - Second read the actual LEED BD+C guide to give you the background information on the credits and gain comprehension. Underline and review as the author indicates to get the most out of your study time. - Finally read the rest of this exam guide to help you review and memorize for the exam.” —missfitz "missfitz" “Very Helpful Guide “Gang Chen's LEED BD&C Exam Guides very helpful in consolidating information from USGBC and GBCI sources as well as providing the information that is necessary for the exam without excess irrelevant information. I highly recommend this book for preparation for the LEED BD+C exams.” —leedap

Finding solutions to indoor air quality problems is often a complex, multifaceted endeavor. This practical desk reference serve as a guide and information

Where To Download Ashrae 55 2010

resource – both on treating existing indoor air problems effectively – and on preventing costly IAQ problems from occurring in the first place. A single discipline approach unfortunately tends to narrow both the control and the treatments options. This book cuts across professions to offer those concerned with the total facility a broader, more comprehensive approach to managing indoor air quality and mitigating indoor air quality problems. The fifth edition is extensively updated and edited in response to the rapid pace of changes and advances in the IAQ industry.

The main benefit of the book is that it explores available methodologies for both conducting in-situ measurements and adequately exploring the results, based on a case study that illustrates the benefits and difficulties of concurrent methodologies. The case study corresponds to a set of 25 social housing dwellings where an extensive in situ measurement campaign was conducted. The dwellings are located in the same quarter of a city. Measurements included indoor temperature and relative humidity, with continuous log in different rooms of each dwelling, blower-door tests and complete outdoor conditions provided by a nearby weather station. The book includes a variety of scientific and engineering disciplines, such as building physics, probability and statistics and civil engineering. It presents a synthesis of the current state of knowledge for

Where To Download Ashrae 55 2010

benefit of professional engineers and scientists.

It is the purpose of this book to provide the meteorological knowledge and tools to improve the risk management of energy industry decisions, ranging from the long term finance and engineering planning assessments to the short term operational measures for scheduling and maintenance. Most of the chapters in this book are based on presentations given at the inaugural International Conference Energy & Meteorology (ICEM), held in the Gold Coast, Australia, 8-11 November 2011. The main aim of the conference was to strengthen the link between Energy and Meteorology, so as to make meteorological information more relevant to the planning and operations of the energy sector. The ultimate goal would be to make the best use of weather and climate data in order to achieve a more efficient use of energy sources. This book seeks to realise the same objective.

The leading green building reference, updated with the latest advances in the field Sustainable Construction is the leading reference for the design, construction, and operation of high performance green buildings. With broad coverage including architecture, engineering, and construction, this book nevertheless delivers detailed information on all aspects of the green building process, from materials selection to building systems and more. This new fourth

Where To Download Ashrae 55 2010

edition has been updated to reflect the latest codes and standards, including LEED v4, and includes new coverage of carbon accounting. The discussion has been updated to align with the current thinking on economics, climate change, net zero buildings, and more, with contributions by leaders in the field that illustrate the most recent shifts in thinking and practice. Ancillary materials including an instructor's manual and PowerPoint presentations for each chapter help bring this clear and up-to-date information into the classroom, making this book a valuable reference for working construction professionals. Also, Interactive graphics found throughout the course help activate the content and highlight key concepts for students. Sustainable construction has gone mainstream, and will one day be the industry norm. This book provides a comprehensive reference to all aspects of a project to show you how green building concepts and principles apply throughout the design and construction process. Get up to date on the latest green building codes and standards Learn about the newest technology in green building materials Adopt the best practices in procurement and delivery systems Apply sustainability concepts to all aspects of construction and design Green buildings operate at a very high level of efficiency, which is made possible only by careful consideration every step of the way. Appropriate land use, landscaping, construction materials, siting, water use,

Where To Download Ashrae 55 2010

and more all play a role in a structure's ultimate carbon footprint. Sustainable Construction provides clear guidance for all aspects of green building, including the most recent advances and the latest technology.

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 exclusive opportunity for policy-makers, designers, researchers, engineers and managers to share their experience. Considering the recent attention on building energy consumption and indoor environments, ISHVAC2013 provided a global platform for discussing recent research on and developments in different aspects of HVAC systems and components, with a focus 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

Where To Download Ashrae 55 2010

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 Yuguo Li works at The University of Hong Kong.

Encyclopedia of Sustainable Technologies provides an authoritative assessment of the sustainable technologies that are currently available or in development. Sustainable technology includes the scientific understanding, development and application of a wide range of technologies and processes and their environmental implications. Systems and lifecycle analyses of energy systems, environmental management, agriculture, manufacturing and digital technologies provide a comprehensive method for understanding the full sustainability of processes. In addition, the development of clean processes through green chemistry and engineering techniques are also described. The book is the first multi-volume reference work to employ both Life Cycle Analysis (LCA) and Triple Bottom Line (TBL) approaches to assessing the wide range of technologies available and their impact upon the world. Both approaches are long established and widely recognized, playing a key role in the organizing principles of this valuable work. Provides readers with a one-stop guide to the most current research in the field Presents a grounding of the fundamentals of the field of sustainable

Where To Download Ashrae 55 2010

technologies Written by international leaders in the field, offering comprehensive coverage of the field and a consistent, high-quality scientific standard Includes the Life Cycle Analysis and Triple Bottom Line approaches to help users understand and assess sustainable technologies

Leading architectural firms are now using in-house design simulation to help make more sustainable design decisions. Taking advantage of these new tools requires understanding of what can be done with simulation, how to do it, and how to interpret the results. This software-agnostic book, which is intended for you to use as a professional architect, shows you how to reduce the energy use of all buildings using simulation for shading, daylighting, airflow, and energy modeling. Written by a practicing architect who specializes in design simulation, the book includes 30 case studies of net-zero buildings, as well as of projects with less lofty goals, to demonstrate how energy simulation has helped designers make early decisions. Within each case study, author Kjell Anderson mentions the software used, how the simulation was set up, and how the project team used the simulation to make design decisions. Chapters and case studies are written so that you learn general concepts without being tied to particular software. Each chapter builds on the theory from previous chapters, includes a summary of concept-level hand calculations (if applicable), and gives comprehensive explanations with graphic examples. Additional topics include simulation basics, comfort, climate analysis, a discussion on how simulation is integrated into some firms,

Where To Download Ashrae 55 2010

and an overview of some popular design simulation software.

This book constitutes the proceedings of the 4th International Conference on Human Aspects of IT for the Aged Population, ITAP 2018, held as part of the 20th International Conference, HCI International 2018, which took place in Las Vegas, Nevada, in July 2018. The total of 1171 papers and 160 posters included in the 30 HCII 2018 proceedings volumes was carefully reviewed and selected from 4346 submissions. ITAP 2018 includes a total of 84 papers. They were organized in topical sections as follows: Part I: aging and technology acceptance; aging and interaction; intergenerational communication and social participation. Part II: health care technologies and services for the elderly; intelligent environments for aging; and games and entertainment for the elderly.

Environmental engineering has a leading role in the elimination of ecological threats, and deals, in brief, with securing technically the conditions which create a safe environment for mankind to live in. Due to its interdisciplinary character it can deal with a wide range of technical and technological problems. Since environmental engineering uses the knowledge of the basic sciences – biology, chemistry, biochemistry and physics – it is able to neutralise pollution in all the elements of the environment, i.e. the hydrosphere, atmosphere and lithosphere. Moreover, environmental engineering deals with the design and maintenance of systems of water supply, sewage disposal, heating, ventilation and air-conditioning in buildings. Environmental Engineering IV contains 77

Where To Download Ashrae 55 2010

peer reviewed papers selected from 527 presented at the 4th Congress of Environmental Engineering (Lublin, Poland, 2-5 September 2012). The contributions are divided into 7 chapters: • Water supply • Water and wastewater treatment • Neutralization of solid wastes and sludge • Air protection and quality • Indoor microclimate • Energy • Biology and technology Environmental Engineering IV assesses the state of scientific research in various areas of environmental engineering, evaluates the organizational, technical and technological progress made in contributing to ecological security, and determines the place of environmental engineering in sustainable development, taking into account current political and economic conditions, and is a valuable source of information for the environmental engineering professional and academic community.

This book analyzes the trends and technologies of green and energy efficient building, identifying strategies for implementing energy savings and enabling the use of renewable resources in residential, commercial, healthcare and educational building sectors. The authors focus on best practices in temperate climates, providing in-depth coverage of urban heat island, climate change and fuel poverty mitigation through architectural optimization, leveraging renewable energy sources and utilization of cutting-edge cooling materials. Pragmatic emphasis is placed on improving the energy performance of existing building stock to meet short and long term objectives of climate and energy conservation strategies. Engineers, architects, designers, students, policy

Where To Download Ashrae 55 2010

makers and efficiency professionals will all gain valuable insights and ideas from this practical handbook to greening the built environment.

This all-inclusive LEED v4 Green Associate exam Study Guide is your path to a new professional credential! GBRI, a USGBC Education Partner, has carefully developed this guide to ensure all topics found on the real exam are thoroughly covered. Our expert instructors have devised an easy-to-navigate guide that comes with complimentary access to supplemental materials online! You will gain access to online on-demand study modules exploring the topics covered in the guide, mock exams structured like the real test, additional practice questions by section, flash cards, memory charts & more. Access your materials 24/7 for your convenience!

In this book, leading international experts explore the emerging concept of the zero energy mass custom home (ZEMCH) – designed to meet the need for social, economic, and environmental sustainability – and provide all of the knowledge required for the delivery of zero energy mass customized housing and community developments in developed and developing countries. The coverage is wide ranging, progressing from explanation of the meaning of sustainable development to discussion of challenges and trends in mass housing, the advantages and disadvantages of prefabricated methods of construction, and the concepts of mass customization, mass personalization, and inclusive design. A chapter on energy use will aid the reader in designing and retrofitting housing to reduce energy demand and/or improve energy end?use

Where To Download Ashrae 55 2010

efficiency. Passive design strategies and active technologies (especially solar) are thoroughly reviewed. Application of the ZEMCH construction criteria to new buildings and refurbishment of old houses is explained and the methods and value of building performance simulation, analyzed. The concluding chapter presents examples of ZEMCH projects from around the world, with discussion of marketing strategy, design, quality assurance, and delivery challenges. The book will be invaluable as a training/teaching tool for both students and industry partners.

This book is an attempt to combine all the books, literatures, researches and universities master's theses available for a shortcut fundamental knowledge to design basic passive or natural ventilation in residential homes. As in-depth studies in passive design will take years of immense work due to so many variables involved, we tried to gather just enough information to provide you the basic working knowledge to start designing your simple naturally ventilated project. We also included our NV study of a high-rise building that was successfully built.

This thesis establishes the definition of apartment typologies through a multidimensional approach, a sensitivity analysis with the aim of assessing the possibilities to reduce the risk of overheating

Heating and Cooling of Buildings: Principles and Practice of Energy Efficient Design, Third Edition is structured to provide a rigorous and comprehensive technical foundation and coverage to all the various elements inherent in the

Where To Download Ashrae 55 2010

design of energy efficient and green buildings. Along with numerous new and revised examples, design case studies, and homework problems, the third edition includes the HCB software along with its extensive website material, which contains a wealth of data to support design analysis and planning. Based around current codes and standards, the Third Edition explores the latest technologies that are central to design and operation of today's buildings. It serves as an up-to-date technical resource for future designers, practitioners, and researchers wishing to acquire a firm scientific foundation for improving the design and performance of buildings and the comfort of their occupants. For engineering and architecture students in undergraduate/graduate classes, this comprehensive textbook:

A comprehensive resource that builds a bridge between engineering disciplines and the building sciences and trades, *Forensic Engineering: Damage Assessments for Residential and Commercial Structures* provides an extensive look into the world of forensic engineering. With a focus on investigations associated with insurance industry claims, the book describes methodologies for performing insurance-related investigations including the causation and origin of damage to residential and commercial structures and/or unhealthy interior environments and adverse effects on the occupants of these structures. Edited

Where To Download Ashrae 55 2010

by an industry expert with more than 30 years of experience, and authors with more than 100 years of experience in the field, the book takes the technical aspects of engineering and scientific principles and applies them to real-world issues in a non-technical manner. It provides readers with the experiences, investigation methodologies, and investigation protocols used in, and derived from completing thousands of forensic engineering investigations. It begins with providing a baseline methodology for completing forensic investigations and closes with advice on testifying as an expert witness. Much of what must be known in this field is not learned in school, but is based upon experience since recognizing the cause of a building system failure requires a blending of skills from the white collar and blue collar worlds. Such knowledge can be vital since failures (e.g., water entry) often result from construction activities completed out of sequence.. This book details proven methodologies based on over 7,000 field investigations, methodologies which can be followed by both professionals and laymen alike.

Heating Ventilation and Air Conditioning by J. W. Mitchell and J. E. Braun provides foundational knowledge for the behavior and analysis of HVAC systems and related devices. The emphasis of this text is on the application of engineering principles that features tight integration of physical descriptions with

Where To Download Ashrae 55 2010

a software program that allows performance to be directly calculated, with results that provide insight into actual behavior. Furthermore, the text offers more examples, end-of-chapter problems, and design projects that represent situations an engineer might face in practice and are selected to illustrate the complex and integrated nature of an HVAC system or piece of equipment.

In Ergänzung zum ersten TGA-Praxishandbuch mit Expertenwissen zur Verteilung von Wärme- und Kühlenergie sowie zu Installationssystemen befasst sich der neue Band mit den Bereichen Gebäudezertifizierung, Energiebedarf von Gebäuden und Trinkwasserhygiene. Im Mittelpunkt stehen neue Konzepte und das Know-how für den Einsatz von erneuerbaren Energien speziell in der Gebäudetechnik. TGA-Fachplaner und ausführende Handwerksfirmen erhalten hier aus erster Hand alle wissenswerten Fakten, Erfahrungsberichte, Lösungsmöglichkeiten und Best-Practice-Beispiele. Aus dem Inhalt: Gebäudezertifizierung - Mit Uponor-Systemen zu DGNB Gold // Sommerlicher Wärmeschutz und Nutzenergiebedarf von Gebäuden // Simulationen als Planungsinstrumentarium im Überblick // Konzepte der Wärme- und Kälteerzeugung mit erneuerbaren Energien // Energieeffiziente Raumluf- und Klimatechnik // TABS Design (Technologie, Raumakustik und Gebäudeautomation) // Einhaltung der Hygiene-Anforderungen in Trinkwasser-

Where To Download Ashrae 55 2010

Installationen (TRWI) // Lebenszykluskostenanalyse von Gebäuden // Best Practice - AURON München mit DGNB Gold.

Air Distribution in Buildings is a concise and practical guide to air distribution system design and managing air conditioning systems in buildings. Making use of 40 years of experience in the design of air conditioning and ventilations systems, and other electromechanical services, this structured reference for built environment engineering offers in-depth coverage of air distribution technology. The text brings together a wide range of information and offers technical guidance on the design, calculation, and efficient operation of air distribution in buildings. The text highlights the special characteristics of air distribution in individual spaces. It presents the basic and fundamental concepts of air distribution as it relates to grilles and outlets, room space, and buildings. It focuses on air distribution systems in large buildings, starting with simple rooms and then moving on to more complex configurations. It also sums up the latest standards and best practices in air conditioning engineering. Includes knowledge of the new trends in buildings' air distribution Provides systematic analyses of the air flow regimes, heat transfer, and relative humidity in a collection of special built environments Presents energy analyses of the air conditioning systems for operating theaters and sporting facilities in unusual and severe climatic

Where To Download Ashrae 55 2010

conditions Offers a description of flow characteristics in archeological monuments with emphasis on combating excessive moisture Introduces examples of very dense occupancy built environments, moisture sensitive environments, and open space air conditioning Details advanced treatment of flow characterization in large public buildings This text serves as an ideal resource for air conditioning engineers, contractors, and consultants. It also benefits mechanical and architectural engineering students.

Protective clothing and equipment used for firefighters protect them against their harsh working environment loaded with strong thermal hazards, elevated environmental temperatures, low oxygen concentration and smoke. This book describes an in-depth review of firefighting clothing and equipment, and explicitly addresses the performance of protection and comfort in textile engineering, clothing design, and evaluation. Covered topics include protection and comfort requirements for firefighting clothing and equipment, testing methods, standards and performance evaluation, smart firefighting clothing for first responders and numerical modeling of performance of firefighting clothing. Key Features Presents complete overview about the requirements of firefighters' protective clothing/thermal protective materials Addresses performance of protection and comfort Includes human thermoregulation system and responses to firefighting

Where To Download Ashrae 55 2010

working environment Discusses SMART firefighting clothing and equipment
Suggests "how to improve the wear comfort?"

The dissertation investigates the scientific and business factors that have resulted in air-conditioning being a major contributor to climate-change. With his architectural background, the author demonstrates how a design methodology, not commonly adopted in scientific studies, may actually be a suitable way of dealing with a complex problem: the 'business as usual' scenario involving building science, sociological values and consumer behavior. Using his innovations as case studies, the author shows how good ideas cannot be evaluated on scientific merit alone and demonstrates why commercialization may have a pivotal role in deployment of research-based technology. He advances the theory of personalized thermal comfort which can potentially resolve the air-conditioning conundrum.

ANSI/ASHRAE Standard 55-2010 Thermal Environmental Conditions for Human Occupancy
ANSI/ASHRAE/ASHE Standard 55-2010 Thermal Environmental Conditions for Human Occupancy
Thermal Environmental Conditions for Human Occupancy (Supersedes ANSI/ASHRAE Standard 55-2010), Includes ANSI/ASHRAE Addenda Listed in Appendix M. ASHRAE Thermal Comfort Tool Version 2
Climate change has been the subject of thousands of books and magazines, scientific

Where To Download Ashrae 55 2010

journals, and newspaper articles daily. It's a subject that can be very political and emotional, often blurring the lines between fact and fiction. The vast majority of research, studies, projections and recommendations tend to focus on the human influence on climate change and global warming as the result of CO2 emissions, often to the exclusion of other threats that include population growth and the stress placed on energy sources due to emerging global affluence. Climate Vulnerability seeks to strip away the politics and emotion that surround climate change and will assess the broad range of threats using the bottom up approach—including CO2 emissions, population growth, emerging affluence, and many others—to our five most critical resources: water, food, ecosystems, energy, and human health. Inclusively determining what these threats are while seeking preventive measures and adaptations is at the heart of this unique reference work. Takes a Bottom-Up approach, addressing climate change and the threat to our key resources at the local level first and globally second, providing a more accurate and inclusive approach. Includes extensive cross-referencing, which is key to readers as new connections between factors can be discovered. Cuts across a number of disciplines and will appeal to Biological Science, Earth & Environmental Science, Ecology, and Social Science, comprehensively addressing climate change and other threats to our key resources from multiple perspectives

The ASHRAE Thermal Comfort Tool provides a user-friendly interface for calculating thermal comfort parameters and making thermal comfort predictions using several

Where To Download Ashrae 55 2010

existing thermal comfort models. The ASHRAE Thermal Comfort Tool, Version 2 maintains consistency with ANSI/ASHRAE Standard 55-2010, Thermal Environmental Conditions for Human Occupancy. This new version focuses on the Adaptive and Predicted Mean Vote (PMV) Models and has an updated user interface.

Courtyards have been used for thousands of years in different climates in the world. In hot climates they provide shading, in humid climates they cause a stack effect helping ventilation, in cold climates they break cold winds and protect their microclimate. In temperate climates (such as of the Netherlands), the thermal behaviour of courtyards has been studied less. In this dissertation, low-rise residential courtyard buildings were therefore studied among (and along) different urban block types in the Netherlands. New thinking is essential if we are to design and occupy buildings that can keep us safe with unpredictable economies, climates, energy systems and resource challenges. For too long designers have relied on mechanical solutions for heating, cooling and ventilating buildings. The 21st century dream has to be of a better architecture that enables buildings to be run for as much of a day or year as possible on local, clean, reliable, affordable natural energy. Examples are included from different climates where the fundamental building design is right, its orientation, opening sizes, mass and its natural ventilation systems and pathways. Many modern buildings are poorly designed for climate as manifested by growing incidences of overheating experienced indoor, explored here. The inability of many rating systems to record and improve the climatic

Where To Download Ashrae 55 2010

design of buildings raises questions about how they deal with issues of basic building performance. This book points the way towards how we can understand such problems, and move forward from over-mechanised poorly designed buildings to a new generation of adaptable buildings designed and refurbished to run largely on natural energy and capable of evolving over time to keep their occupants safe and comfortable, even in a warming world. The chapters were originally published in *Architectural Science Review*.

Climate Vulnerability, Volume 3

Research has demonstrated that temperature and relative humidity substantially influence overall perceptions of indoor air quality (Fang, Clausen, & Fanger, 1998). This finding places temperature quality as a high priority, especially for vulnerable adults over 60. Temperature extremes and fluctuation, as well as the perception of those conditions, affect physical performance, thermal comfort and health of older adults (Chatonnet & Cabanac, 1965, pp. 185-6; Fumiharu, Watanabe, Park, Shephard, & Aoyagi, 2005; Heijts & Stringer, 1988). The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the International Organization for Standardization (ISO) have developed thermal-comfort standards for working-age, healthy individuals. None of these standards address the physiological and psychological needs of older adults (ASHRAE Standard 55, 2010; ISO-7730, 2005). This dissertation investigates the impacts of thermal conditions on self-reported health

Where To Download Ashrae 55 2010

and perceived comfort for older adults, hypothesizing that warmer and more-stable indoor thermal conditions will increase the health and perceived comfort of these adults. To this end, a new set of thermal comfort metrics was designed and tested to address the thermal preferences of older adults. The SENIOR COMFORT Metrics 2013 outlined new thresholds for optimal indoor high and low temperatures and set limits on thermal variability over time based on the ASHRAE-55 2010 model. This study was conducted at Sunnyslope Manor, a multi-unit, public-housing complex in north Phoenix. Nearly 60% (76 of 118) of the residents (aged 62-82) were interviewed using a 110-question, self-reporting survey in 73 apartment units. A total of 40 questions and 20 sub-questions addressing perceptions of comfort, pain, sleep patterns, injuries, and mood were extracted from this larger health condition survey to assess health and thermal comfort. Indoor environmental thermal measurements included temperature in three locations: kitchen, living area, and bedroom and data were recorded every 15 minutes over 5 full days and 448 points. Study results start to indicate that older adults for Sunnyslope Manor preferred temperatures between 76 and 82.5 degrees Fahrenheit and that lower temperatures as outlined by ASHRAE-55 2010 increases the rate of injuries and mood changes in older adults among other findings.

Die technische Komplexität von Gebäuden hat massiv zugenommen. Fast alle Bereiche der Gebäudetechnik sind heute zumindest teilweise automatisiert, um z. B. das Raumklima zu optimieren, den Energieverbrauch zu senken, Brand- und

Where To Download Ashrae 55 2010

Rauchentwicklung frühzeitig zu erkennen und zu unterbinden und im Ganzen eine kostengünstigere Bewirtschaftung zu ermöglichen. Numerische Simulationsverfahren sind daher aus der Gebäudeplanung und im Bestand nicht mehr wegzudenken und werden auf allen Gebieten der Bauphysik eingesetzt. Ihre Anwendung erfordert Hintergrundwissen zu den verwendeten Berechnungsverfahren, um sie wirtschaftlich einzusetzen und Fehler zu vermeiden. Auch die Modellgenauigkeit spielt für die Interpretation von Simulationsergebnissen eine bedeutende Rolle und wird häufig unterschätzt, ihre Verifikation muss nachvollziehbar sein. Außerdem sind aufgrund von Vereinfachungen manche Ergebnisse nur für bestimmte Parameter brauchbar. Nicht zuletzt erfordert die Anwendung und Interpretation von Simulationen auch die Berücksichtigung von eventuellen Ungenauigkeiten der Eingabeparameter. Der Bauphysik-Kalender 2015 gibt wertvolle Praxishinweise zur Softwareanwendung anhand von Beispielen.

Providing detailed analysis of the thermal comfort assessment of clothing as the basis for developing standards, this book discusses the thermal protective role of clothing as a way of modelling heat transfer from the body, general thermal regulation of humans, and the importance of globally accepted test methods and standards to improve quality. New materials and discoveries in the study of thermal comfort necessitate the need for standard improvements and update. The development of international standards and the unification of testing methods is of crucial significance to ensure cost reduction and health protection. The book promotes instruments, methods, implementation of unified specifications, and the

Where To Download Ashrae 55 2010

definition of standards so that a clear quality management system can be established, for both production systems and testing methods. It discusses standards in ergonomics of the thermal environment, clothing thermal characteristics, and subjective assessment of thermal comfort, which allows for systematic control of the measuring methods and the services and final products that are distributed on the global market. This book is aimed at industry professionals, researchers, and advanced students working in textile and clothing engineering, comfort testing, and ergonomics.

In the ten years since the publication of the second edition of *Human Thermal Environments: The Effects of Hot, Moderate, and Cold Environments on Human Health, Comfort, and Performance*, Third Edition, the world has embraced electronic communications, making international collaboration almost instantaneous and global. However, there is still a need for a compilation of up-to-date information and best practices. Reflecting current changes in theory and applications, this third edition of a bestseller continues to be the standard text for the design of environments for humans to live and work safely, comfortably, and effectively, and for the design of materials that help people cope with their environments. See *What's New in the Third Edition*: All existing chapters significantly updated Five new chapters Testing and development of clothing Adaptive models Thermal comfort for special populations Thermal comfort for special environments Extreme environments Weather Outdoor environments and climate change Fun runs, cold snaps, and heat waves The book covers hot, moderate, and cold environments, and defines them in terms of six basic parameters: air temperature, radiant temperature, humidity, air velocity, clothing worn, and the person's activity. It focuses on the principles and practice of human response, which incorporates psychology, physiology, and

Where To Download Ashrae 55 2010

environmental physics with applied ergonomics. The text then discusses water requirements, computer modeling, computer-aided design, and current standards. A systematic treatment of thermal environments and how they affect humans in real-world applications, the book links the health and engineering aspects of the built environment. It provides you with updated tools, techniques, and methods for the design of products and environments that achieve thermal comfort.

The environment that we construct affects both humans and our natural world in myriad ways. There is a pressing need to create healthy places and to reduce the health threats inherent in places already built. However, there has been little awareness of the adverse effects of what we have constructed-or the positive benefits of well designed built environments. This book provides a far-reaching follow-up to the pathbreaking *Urban Sprawl and Public Health*, published in 2004. That book sparked a range of inquiries into the connections between constructed environments, particularly cities and suburbs, and the health of residents, especially humans. Since then, numerous studies have extended and refined the book's research and reporting. *Making Healthy Places* offers a fresh and comprehensive look at this vital subject today. There is no other book with the depth, breadth, vision, and accessibility that this book offers. In addition to being of particular interest to undergraduate and graduate students in public health and urban planning, it will be essential reading for public health officials, planners, architects, landscape architects, environmentalists, and all those who care about the design of their communities. Like a well-trained doctor, *Making Healthy Places* presents a diagnosis of--and offers treatment for--problems related to the built environment. Drawing on the latest scientific evidence, with contributions from experts in a range of fields, it

Where To Download Ashrae 55 2010

imparts a wealth of practical information, with an emphasis on demonstrated and promising solutions to commonly occurring problems.

This book brings together concepts from the building, environmental, behavioural and health sciences to provide an interdisciplinary understanding of office and workplace design. Today, with changes in the world of work and the relentless surge in technology, offices have emerged as the repositories of organizational symbolism, denoted by the spatial design of offices, physical settings and the built environment (architecture, urban locale). Drawing on Euclidian geometry that quantifies space as the distance between two or more points, a body of knowledge on office buildings, the concept of office and office space, and the interrelationships of spatial and behavioural attributes in office design are elucidated. Building and office work-related illnesses, namely sick building syndrome and ailments arising from the indoor environment, and the menace of musculoskeletal disorders are the alarming manifestations that critically affect employee satisfaction, morale and work outcomes. With a focus on office ergonomics, the book brings the discussion on the fundamentals of work design, with emphasis on computer workstation users. Strategic guidance of lighting systems and visual performance in workplaces are directed for better application of ergonomics and improvement in office indoor environment. It discusses the profiles of bioclimatic, indoor air quality, ventilation intervention, lighting and acoustic characteristics in office buildings. Emphasis has been given to the energy performance of buildings, and contemporary perspectives of building sustainability, such as green office building assessment schemes, and national and international building-related standards and codes. Intended for students and professionals from ergonomics, architecture, interior design, as well as construction engineers, health care

Where To Download Ashrae 55 2010

professionals, and office planners, the book brings a unified overview of the health, safety and environment issues associated with the design of office buildings.

A volume of five parts, this book is a culmination of selected research papers from the second version of the international conferences on Urban Planning & Architectural Design for sustainable Development (UPADSD) and Urban Transit and Sustainable Networks (UTSN) of 2017 in Palermo and the first of the Resilient and Responsible Architecture and Urbanism Conference (RRAU) of 2018 in the Netherlands. This book, not only discusses environmental challenges of the world today, but also informs the reader of the new technologies, tools, and approaches used today for successful planning and development as well as new and upcoming ones. Chapters of this book provide in-depth debates on fields of environmental planning and management, transportation planning, renewable energy generation and sustainable urban land use. It addresses long-term issues as well as short-term issues of land use and transportation in different parts of the world in hopes of improving the quality of life. Topics within this book include: (1) Sustainability and the Built Environment (2) Urban and Environmental Planning (3) Sustainable Urban Land Use and Transportation (4) Energy Efficient Urban Areas & Renewable Energy Generation (5) Quality of Life & Environmental Management Systems. This book is a useful source for academics, researchers and practitioners seeking pioneering research in the field.

[Copyright: 51b76b906fc71eaa6893b70aac92e36](https://www.pdfdrive.com/ashrae-55-2010.html)