

Managing Indoor Air Quality Fifth Edition

Microbial pollution is a key element of indoor air pollution. It is caused by hundreds of species of bacteria and fungi, in particular filamentous fungi (mould), growing indoors when sufficient moisture is available. This document provides a comprehensive review of the scientific evidence on health problems associated with building moisture and biological agents. The review concludes that the most important effects are increased prevalences of respiratory symptoms, allergies and asthma as well as perturbation of the immunological system. The document also summarizes the available information on the conditions that determine the presence of mould and measures to control their growth indoors. WHO guidelines for protecting public health are formulated on the basis of the review. The most important means for avoiding adverse health effects is the prevention (or minimization) of persistent dampness and microbial growth on interior surfaces and in building structures. [Ed.]

Originally published two decades ago, the Energy Management Handbook has become recognized as the definitive stand-alone energy manager's desk reference, used by thousands of energy management professionals throughout the industry. Known as the bible of energy management, it has helped more energy managers reach their potential than any other resource. Completely revised and updated, the fifth edition includes new chapters on building commissioning and green buildings. You'll find in-depth coverage of every component of effective energy management, including boiler and steam system optimization, lighting and electrical systems, HVAC system performance, waste heat recovery, cogeneration, thermal energy storage, energy management control systems, energy systems maintenance, building envelope, industrial insulation, indoor air quality, energy economic analysis, energy procurement decision making, energy security and reliability, and overall energy management program organization. You'll also get the latest facts on utility deregulation, energy project financing, and in-house vs. outsourcing of energy services. The energy industry has change radically since the initial publication of this reference over 20 years ago. Looking back on the energy arena, one thing becomes clear: energy is the key element that must be managed to ensure a company's profitability. The Energy Management Handbook, Fifth Edition is the definitive reference to guide energy managers through the maze of changes the industry has experienced.

Managing the nation's air quality is a complex undertaking, involving tens of thousands of people in regulating thousands of pollution sources. The authors identify what has worked and what has not, and they offer wide-ranging recommendations for setting future priorities, making difficult choices, and increasing innovation. This new book explores how to better integrate scientific advances and new technologies into the air quality management system. The volume reviews the three-decade history of governmental efforts toward cleaner air, discussing how air quality standards are set and results measured, the design and implementation of control strategies, regulatory processes and procedures, special issues with mobile pollution sources, and more. The book looks at efforts to spur social and behavioral changes that affect air quality, the effectiveness of market-based instruments for air quality regulation, and many other aspects of the issue. Rich in technical detail, this book will be of interest to all those engaged in air quality management: scientists, engineers, industrial managers, law makers, regulators, health officials, clean-air advocates, and concerned citizens.

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.

Indoor Air Quality

Indoor Air Quality and HVAC Systems

Solutions and Strategies

Selected Pollutants

A Guide for Facility Managers

Managing Indoor Air QualityManaging Indoor Air Quality, Fifth EditionCRC Press

The conference was held in Washington, DC, May 1990. The papers address topics in expert system development and management; planning and scheduling; knowledge acquisition and management systems; human computer interaction; expert database systems; expert advisory systems; natural language; knowledge

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

Indoor Air Quality and HVAC Systems is a practical guide for understanding the relationship between the design, installation, operation, and maintenance of HVAC systems and achieving indoor air quality (IAQ). The book describes the individual components of HVAC systems and the role each plays in maintaining good indoor air quality. It also identifies the techniques available for evaluating the performance characteristics of ventilation systems (including the use of carbon dioxide monitors and sulfur hexafluoride tracer testing equipment). Other topics discussed include the determination of pathways of air movement through buildings and understanding pressure relationships, ventilation effectiveness, and efficiency. The book concludes with an overview of sources of air contaminants to be concerned about when performing an IAQ evaluation. Indoor Air Quality and HVAC Systems provides critical information for industrial hygienists, HVAC contractors and engineers, and building owners and managers.

Current Bibliographies in Medicine

The Latest Sampling and Analytical Methods, Third Edition

Management of Construction Projects

WHO Guidelines for Indoor Air Quality

Air Quality

Policy Options to Address the Cost of Outdoor Air Pollution

Indoor air quality (IAQ) is increasingly making front-page headlines, and the magnitude of the problem is just beginning to surface. Designed for engineers and architects, this reference on IAQ includes coverage of the control and assessment of asbestos, radon, carbon monoxide and other contaminants; investigative procedures; measurement and monitoring techniques; inspection and testing; and bacteriological and biological issues.

Fundamentals of Air Pollution, Second Edition discusses the basic chemistry, physics, and engineering of air pollution. This edition explores the processes and equipment that produce less pollution in the atmosphere. This book is comprised of six parts encompassing 28 chapters. This text starts with an overview of the predominant air pollution problems during the Industrial Revolution, including smoke and ash produced by burning oil or coal in the boiler furnaces of power plants, marine vessels, and locomotives. This edition then explores the mathematical models of atmospheric transport and diffusion and discusses the air pollution control in communities. Other chapters deal with atmospheric chemistry, control technology, and visibility through the atmosphere. This book further examines the regulatory concepts that have become more significant, such as the bubble concept, air quality, emission standards, and the trading and banking of emission rights. Air pollution scientists, atmospheric scientists, ecologists, engineers, educators, researchers, and students will find this book extremely useful.

This book deals with indoor environmental quality (IEQ), which encompasses diverse factors that affect human life inside a building. These factors include indoor air quality (IAQ), lighting, acoustics, drinking water, ergonomics, electromagnetic radiation, and so on. Enhanced environmental quality can improve the quality of life and productivity of the occupants, increase the resale value of the building, and minimize the penalties on building owners. The book covers an overview of IEQ and its research progress, IAQ and its monitoring, the best indoor illumination scenes, IEQ in healthcare buildings, and acoustic comfort in residential buildings and places of worship. This book is expected to benefit undergraduate and postgraduate students, researchers, teachers, practitioners, policy makers, and every individual who has a concern for healthy life. This book presents WHO guidelines for the protection of public health from risks due to a number of chemicals commonly present in indoor air. The substances considered in this review, i.e. benzene, carbon monoxide, formaldehyde, naphthalene, nitrogen dioxide, polycyclic aromatic hydrocarbons (especially benzof[a]pyrene), radon, trichloroethylene and tetrachloroethylene, have indoor sources, are known in respect of their hazardousness to health and are often found indoors in concentrations of health concern. The guidelines are targeted at public health professionals involved in preventing health risks of environmental exposures, as well as specialists and authorities involved in the design and use of buildings, indoor materials and products. They provide a scientific basis for legally enforceable standards.

Managing Indoor Air Quality Risks

Environmental Health Perspectives

A Guide to Indoor Air Quality

Indoor Air Quality in Healthcare Facilities

Air Quality Assessment and Management

The Next “Oil” Crisis

People spend most of their time indoors, and indoor air pollutants can cause both long and short term health effects. Awareness of indoor air pollution as an environmental issue, however, is relatively new. This book has been prepared to offer an up-to-date, comprehensive reference manual on indoor air quality to scientists and professionals active in this area. The intention of the book is to bring together a collection of contributions from specialists in the specific disciplines of indoor air quality, covering all points of view from various angles, from building design and building sciences, to health effects and medical diagnosis, toxicology of indoor air pollutants, and air sampling and analysis. One of the characteristics of this book is the multidisciplinary approach that integrates the expertise of medical doctors, architects, engineers, chemists, biologists, physicists and toxicologists. The resulting product is of great educational value and recommended for consultation as well as teaching purposes. The panel of contributing authors includes top experts on indoor air worldwide, who have participated in international workshops and led the development of indoor air sciences over the recent years.

This book is a comprehensive examination of the phenomenon of poor indoor air quality (IAQ) characterized as sick or problem buildings. Significant emphasis is given to defining the nature of the problem, the various potential causal and risk factors, problem building diagnostic protocols and contaminant measurements, and the mitigation of IAQ problems, including case histories. The book features a discussion on the potential causal factors studied extensively in Europe and recognized in North America as well.

The harm to Pakistanis' health, economy, and environment from urban air pollution is among the highest in South Asia, exceeding several high-profile causes of mortality and morbidity in Pakistan. This report details a broad spectrum of research on Pakistan's air quality management challenges and presents concrete steps to achieve improvements.

This interdisciplinary guide offers background, research findings, and practical strategies for assessing and improving air quality in hospitals and other healthcare settings. Positing good air quality as critical to patient and staff well-being, it identifies disease-carrying microbes, pollutants, and other airborne toxins and their health risks, and provides localized interventions for reducing transmission of pathogens. Effective large-scale approaches to air quality control are also outlined, from green building materials to hygienic HVAC and air treatment practices. Its thoroughness of coverage makes this book a vital resource for professionals involved in every aspect of health service facilities, from planning and construction to maintenance and management. Among the topics covered: Existing guidelines in indoor air quality: the case study of hospital environments Hospital environments and epidemiology of healthcare-associated infections Analysis of microorganisms in hospital environments and potential risks Legionella indoor air contamination in healthcare environments HVAC system design in healthcare facilities and control of aerosol contaminants Assessment of indoor air quality in inpatient wards Indoor Air Quality in Healthcare Facilities imparts up-to-date expertise to a variety of professional readers, including hospitals' technical and management departments, healthcare facilities' chief medical officers, hospital planners, sport and thermal building designers, public health departments, and students of universities and schools of hygiene.

The Inside Story

A Comprehensive Reference Book

Climate Change, the Indoor Environment, and Health

Managing Indoor Air Quality

Cleaning Pakistan's Air

Handbook of Indoor Air Quality

Air pollution is thus far one of the key environmental issues in urban areas. Comprehensive air quality plans are required to manage air pollution for a particular area. Consequently, air should be continuously sampled, monitored, and modeled to examine different action plans. Reviews and research papers describe air pollution in five main contexts: Monitoring, Modeling, Risk Assessment, Health, and Indoor Air Pollution. The book is recommended to experts interested in health and air pollution issues.

This volume presents selected papers presented during the First Asian Conference on Indoor Environmental Quality (ACIEQ). The contents cover themes of indoor air quality monitoring and modeling; the influence of confounding factors like thermal comfort parameters, such as temperature and relative humidity with respect to different building types, e.g., residential, commercial, institutional; ventilation characteristics, lighting and acoustics. It also focuses on people's performance, productivity, and behavior with respect to their exposure to various indoor air pollutants and parameters influencing the overall indoor environmental quality. This volume is primarily aimed at researchers working in environmental science and engineering, building architecture and design, HVAC and ventilation, public health, and epidemiology. The contents of this volume will also be useful to policy makers working on occupational health and building codes.

A water crisis on our immediate horizon is destined to hurt, even kill, millions of children, and the window of opportunity to do something about it is rapidly closing. There is, however, a glimmer of hope that could turn into rays of sunshine. Water is a commodity, and we have just come through some painful times dealing with the shortage of another commodity—energy. For those who lived through the "energy crisis," this book offers a brief trip down memory lane.

The indoor environment affects occupants' health and comfort. Poor environmental conditions and indoor contaminants are estimated to cost the U.S. economy tens of billions of dollars a year in exacerbation of illnesses like asthma, allergic symptoms, and subsequent lost productivity. Climate change has the potential to affect the indoor environment because conditions inside buildings are influenced by conditions outside them. Climate Change, the Indoor Environment, and Health addresses the impacts that climate change may have on the indoor environment and the resulting health effects. It finds that steps taken to mitigate climate change may cause or exacerbate harmful indoor environmental conditions. The book discusses the role the Environmental Protection Agency (EPA) should take in informing the public, health professionals, and those in the building industry about potential risks and what can be done to address them. The study also recommends that building codes account for climate change projections; that federal agencies join to develop or refine protocols and testing standards for evaluating emissions from materials, furnishings, and appliances used in buildings; and that building weatherization efforts include consideration of health effects. Climate Change, the Indoor Environment, and Health is written primarily for the EPA and other federal agencies, organizations, and researchers with interests in public health; the environment; building design, construction, and operation; and climate issues.

Pilot Study on Indoor Air Quality

IAQ Guidelines For Occupied Buildings Under Construction 2nd Ed

The Future of Thermal Comfort in an Energy- Constrained World

A Practical Guide

See The Air

Fundamentals of Air Pollution 2e

With an emphasis on passive sampling, this volume focuses on the environmental monitoring for common gaseous pollutants. It offers an overview of the history and nature of pollutants of concern to museums and the challenges facing scientists, conservators, and managers seeking to develop target pollutant guidelines to protect cultural property.

Unlike the majority of construction project management textbooks out there, Management of Construction Projects takes a distinctive approach by setting itself in the context of a single and real-world construction project throughout and also by looking at construction project management from the constructor's perspective. This project-based learning approach emphasizes the skills, knowledge, and techniques students require to become successful project managers. This second edition uses a brand new, larger, and more challenging case study to take students through key stages of the process, including: contracts and subcontracting; estimating, scheduling, and planning; supply chain and materials management; cost control, quality, and safety; project leadership and ethics; and claims, disputes, and project close-outs. Also new to this edition is coverage of emergent industry trends such as LEAN, LEED, and BIM. The book contains essential features such as review questions, exercises, and chapter summaries, while example plans, schedules, contracts, and other documents are stored on a companion website. Written in straightforward language from a constructor's perspective, this textbook gives a realistic overview and review of the roles of project managers and everything they need to know in order to see a successful project through from start to finish.

Written in easy-to-understand, non-technical terms, this book can be both a ready reference and a training guide. Covering each type of indoor air hazard, the author explains the basics of proper ventilation and the relationship of the HVAC system to indoor air quality. He examines fundamental procedures for maintaining good air quality, including filtration, control of humidity and moisture, and duct cleaning. A full chapter is devoted to recent developments and procedures for controlling toxic mould. Case studies, an HVAC glossary and several helpful directories are also included. The guide provides a comprehensive account of indoor air quality hazards, their sources and appropriate solutions.

Since my first book "See The Air - The Essential Guide for Optimal Air Quality in Your Life" was published back in 2017 many have read it, and many have followed my example and tried to write and describe the problem too. There is some interest in the field, and I want to contribute even more by gathering all the available information regarding air pollution and its impact on health in this book. My intention here is clear, I want to shock people and authorities and make it clear that there is proof. Air pollution kills millions of people every year and there is no excuse not to listen to brilliant scientists and the noble work they have done.

Cumulated Index Medicus

Proceedings

Indoor Environmental Quality

Dampness and Mould

Air Quality Management in the United States

Indoor Air Quality Handbook

Discusses pollution from tobacco smoke, radon and radon progeny, asbestos and other fibers, formaldehyde, indoor combustion, aeropathogens and allergens, consumer products, moisture, microwave radiation, ultraviolet radiation, odors, radioactivity, and dirt and discusses means of controlling or eliminating them.

Air Quality Assessment and Management: A Practical Guide describes the techniques available for an assessment while detailing the concepts and methodologies involved. It reviews the principles of air quality management; primary sources of air pollution; impact of emissions on human health, flora and fauna; scoping of air quality impacts; baseline monitoring; impact prediction; impact significance; and pollution mitigation and control. Emphasis will be placed on the practical side of AQA, with numerous international case studies and exercises to aid the reader in their understanding of concepts and applications.

This book introduces the basic knowledge on indoor air quality and the research achievement in the past two decades. It covers the following 12 parts: introduction, indoor air pollutants, measurement, perceived indoor air quality, source/sink characteristics, pollution transportation and dispersion, indoor air chemistry, exposure, health risk, control, and special indoor environments. It involves the field of built environment, building energy, atmospheric environment, public health, chemistry etc. The book includes the broad achievement in indoor air quality research in the past two decades. To know such significant achievement is very helpful for the researchers and technicians in the IAQ and the related fields. It is also useful for experts in other fields and general readers to know the basic knowledge and research advance in indoor air field. People live in indoor environment over 85% of lifetime and an adult inhales about 20 kg air each day which takes over 70% mass intake of human body. Therefore, indoor air quality is very important to human health.The Scientific and Technological Committees (STCs) of the International Society of Indoor Air Quality (ISIAQ) strongly support this handbook. There are about 10 such STCs in ISIAQ. The chairman of each STC helped the editors-in-chief to find or check the authors of each part of the handbook and organized a series of academic activities for preparing the chapters in the part. The authors should be experts and quite active on the involved chapter topics.A group of famous experts in Indoor Air field has been invited to the Advisory Committee. Their research interests and experience cover the scope of the book. Their contribution guarantees the quality of the book. Their reputations together with the authors' are attractive to common readers.In addition to hard copies, the book is also published online and is often updated by the authors.

The fifth edition of a bestseller, Air Quality provides students with a comprehensive overview of air quality, the science that continues to provide a better understanding of atmospheric chemistry and its effects on public health and the environment, and the regulatory and technological management practices employed in achieving air quality goals. Maintaining the practical approach that has made previous editions so popular, the chapters have been reorganized, new material has been added, less relevant material deleted, and new images added, particularly those from Earth satellites. See What's New in the Fifth Edition: New graphics, images, and an appended list of unit conversions New problems and questions Revisions and updates on the regulatory aspects related to air quality, emissions of pollutants, and particularly in the area of greenhouse gas emissions Updated information

on topics that affect air quality such as global warming, climate change, international issues associated with air quality and its regulation, atmospheric deposition, atmospheric chemistry, and health and environmental effects of atmospheric pollution Written in Thad Godish's accessible style, the book clearly elucidates the challenges we face in our fifth decade of significant regulatory efforts to protect and enhance the quality of the nation's air. It also highlights the growing global awareness of air quality issues, climate change, and public health concerns in the developing world. The breadth of coverage, review questions at the end of each chapter, extensive glossary, and list of readings put the tools for understanding in your students' hands.

Monitoring for Gaseous Pollutants in Museum Environments

The Fifth Annual AI Systems in Government Conference, May 6-11, 1990, Washington, D.C.

Current Air Quality Issues

Definition, Diagnosis and Mitigation

A Constructor's Perspective

January 1984 Through July 1988 : 1847 Citations. Household and occupational pollutants, excluding radon

* Tackles the complex environmental issue of Indoor Air Quality (IAQ) for industrial hygienists, HVAC engineers, architects and anyone else concerned with the air quality of interiors * Infused with charts, tables, and all the major formulas and calculations necessary to monitor and characterize a particular environment * Includes all relevant codes, standards and guidelines

This second edition offers a comprehensive overview of the priority indoor air pollutants, such as volatile organic compounds, indoor particles and fibres, combustion products and other chemical agents that may affect health. It includes updated reviews with a focus on emission processes and on the large variety of volatile organic pollutants. It also introduces new topics, such as reflections on the shift in human health from infection-related diseases to chronic illnesses and the significance of indoor chemical exposure. The authors provide insights into different cultural settings and their consequences for indoor air quality. Further, the book briefly discusses building certification as a market-oriented tool to improve energy efficiency and indoor air quality in the building sector. It appeals to public health specialists; scientists; graduate students in the field of environmental sciences; decision makers in government, regulatory bodies and the construction industry; and facility managers.

Air pollution is about five decades or so old field and continues to be a global concern. Therefore, the governments around the world are involved in managing air quality in their countries for the welfare of their citizens. The management of air pollution involves understanding air pollution sources, monitoring of contaminants, modeling air quality, performing laboratory experiments, the use of satellite images for quantifying air quality levels, indoor air pollution, and elimination of contaminants through control. Research activities are being performed on every aspect of air pollution throughout the world, in order to respond to public concerns. The book is grouped in five different sections. Some topics are more detailed than others. The readers should be aware that multi-authored books have difficulty maintaining consistency. A reader will find, however, that each chapter is intellectually stimulating. Our goal was to provide current information and present a reasonable analysis of air quality data compiled by knowledgeable professionals in the field of air pollution.

This is a practical, user-friendly guide to the identification and assessment of indoor air contaminants that contribute to building related illness in commercial buildings, institutions, and residences. The third edition covers basic concepts and details various approaches and up-to-date analytical methods, and it addresses some of the more recent, as well as less common, concerns on air pollutants. All chapters will be updated and also includes one completely new chapter on Inhalable Airborne Particles. All updates adhere to the latest National Ambient Air Quality Standards and other active standards.

Air Quality, Fifth Edition

EHP.

Managing Indoor Air Quality, Fifth Edition

Water Poverty

Indoor Air Pollution

Energy Management Handbook, Fifth Edition