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All prices, rates and publication dates are subject to change without notice. Check the website or contact the sales team for the most up-to-date information and prices.
Buildings and Structures

Appraisal and Repair of Existing Concrete Structures
Yue Choong Kog

Appraisal and Repair of Existing Concrete Structures is a practical and concise reference for practising civil and structural engineers engaged in the appraisal and repair of concrete buildings. Comprehensive in scope, the book provides a detailed guide to all stages of appraisal, and the issues that can be encountered in the structural appraisal process. Written by an author with over 40 years’ experience in research and practice, the book contains essential knowledge required by practising civil and structural engineers as well as students studying structural appraisal.

About the editors
Dr Yue Choong Kog is President of East West Engineering Consultants, Singapore. He has over 45 years of research and practitioner experience in appraisal and repair of concrete structures and is a former President of the Association of Consulting Engineers, Singapore. He has over 100 previous publications in international refereed journals, conference proceedings, and chapters in books.

978-0-7277-6693-9 | 264p | March 2023 | Hardback | £70.00 | $105.00

Also in Buildings and Structures

Appraisal and Repair of Timber Structures, Second edition
Peter Ross and Andrew Lawrence
978-0-7277-6178-1 | 288pp | August 2020 | Paperback | £90.75 | $134.50

Blast Effects on Buildings, Third edition
David Cormie, Geoff Mays and Peter Smith
978-0-7277-6147-7 | 344pp | December 2019 | Hardback | £99.75 | $132.50

Bridge Deck Erection Equipment: A best practice guide
Members of IABSE Working Group 6 (Edited by Steve Harridge and Max Meyer)
978-0-7277-6193-4 | 480pp | June 2018 | Hardback | £137.50 | $194.00

Building Regulations, Codes and Standards: A guide for safe, sustainable and healthy development
Mark Key
978-0-7277-6535-2 | Print book: 248pp, Digital Checklists: 382pp | October 2022 | Paperback | £60.00 | $90.00

Conceptual Structural Design, Third edition: Bridging the gap between architects and engineers
Olga Popovic Larsen (The Royal Danish Academy of Fine Arts, Denmark)
978-0-7277-6598-7 | 208pp | November 2022 | Paperback | £55.00 | $82.50
Also in Buildings and Structures

Designing and Constructing Prestressed Bridges
Jiří Stráský (Strasky, Husky and Partners, UK) and Radim Nečas (Brno University of Technology, Czech Republic)
978-0-7277-6385-3 | 248pp | January 2021 | Hardback | £83.25 | $123.50

Design of Fire-resistant Concrete Structures
Kristian dahl Hertz (Technical University of Denmark, Denmark)
978-0-7277-6444-7 | 264pp | June 2019 | Hardback | £77.50 | $115.50

Designing a Safer Built Environment: A complete guide to the management of design risk
John Carpenter
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Earthquake Design Practice for Buildings, Fourth edition
Damian Grant (Arup, UK) and Edmund Dwight Booth
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Highway Bridge Management
Edited by Graham Cole (Graham Cole Consultancy LTD, UK) and Richard Fish (Richard Fish Consultancy LTD, UK)
978-0-7277-6554-3 | 296pp | December 2022 | Hardback | £80.00 | $120.00

ICE Manual of Bridge Engineering, Third edition
Edited by Gerard Parke (University of Surrey, UK) and Nigel Hewson (Hewson Consulting Engineers, UK)
978-0-7277-6305-1 | 808pp | March 2022 | Hardback | £250.00 | $375.00

Physical Modelling for Architecture and Building Design: A design practice tool
Olga Popovic Larsen (The Royal Danish Academy of Fine Arts, Denmark)
978-0-7277-6383-9 | 264pp | October 2019 | Paperback | £50.00 | $89.00

Prestressed Concrete Bridges, Second edition
Nigel Hewson
978-0-7277-4113-4 | 426pp | November 2011 | Hardback | £135.25 | $183.00

Progressive Collapse of Structures, Second edition
Uwe Starossek (Hamburg University of Technology, Germany)
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Nigel Ricketts
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David Yeomans (Weald & Downland Open-Air Museum, UK)
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Shell Structures in Civil and Mechanical Engineering: Theory and Analysis, Second edition
Alphose Zingoni (University of Cape Town, South Africa)
978-0-7277-6028-9 | 464pp | December 2017 | Hardback | £119.00 | $147.00

Tension Structures, Second edition
Wanda J Lewis (University of Warwick, UK)
978-0-7277-6173-6 | 232pp | January 2018 | Hardback | £69.00 | $114.00

Shell Structures in Civil and Mechanical Engineering comprehensively covers the theories governing the membrane and bending behaviour of thin elastic shells. It applies these theories to obtain practical solutions for a wide variety of shell structures encountered in the civil and mechanical engineering disciplines.

- presents a thorough discussion of the applicability and limitations of the membrane hypothesis in the context of the more general bending theory of shells
- develops the membrane and bending theories of shells, and presents a wealth of closed-form mathematical results for a vast range of shell structures, including junction problems
- includes design considerations and parametric findings for domes, shell roofs, cooling towers, pressure vessels, tanks, new shell forms for liquid containment and novel multi-shell assemblies
- highlights the fundamentals of shell buckling and of finite element modelling of shells.

This new edition is intended for civil and structural engineers involved with the design of domes, architectural shell roofs, industrial barrel roofs, cooling towers, silos, elevated water reservoirs, liquid-containment structures at water treatment works, egg-shaped sludge digesters, oil-storage tanks, chemical storage vessels, and pipelines for water, oil and gas. It will also be of interest to those involved with the design of pressure vessels, boilers, nuclear containment vessels and associated piping.

Alphose Zingoni PhD DIC
PrEng CEng FSAAE FIABSE
FIStructE
is Professor of Structural Engineering and Mechanics in the Department of Civil Engineering at the University of Cape Town. He earned a PhD degree from Imperial College London in 1992 for a thesis on the bending of non-shallow spherical shells. His current research interests encompass shell structures, structural vibration analysis, finite element modelling, studies of symmetry, and applications of group theory to computational problems in structural mechanics. He serves on the editorial boards of several international journals, and is registered as a Professional Engineer with the Engineering Council of South Africa, and as a Chartered Engineer with the Engineering Council of the UK.

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Construction materials

ICE Handbook of Concrete Durability, Second edition: A practical guide to the design of resilient concrete structures

Edited by Marios Soutsos

*ICE Handbook of Concrete Durability, Second edition* is a comprehensive practical reference for professionals involved in the design and maintenance of concrete structures of all types. With contributions from a range of international experts, the book combines a thorough but accessible exposition of the principles of durable concrete design with a practical, hands-on approach to its application in construction projects. Extensively revised and updated throughout, this edition includes four additional chapters as well as new case studies of durability problems and solutions. It is an invaluable guide for a range of construction professionals including design engineers, consultants, and contractors as well as postgraduate students on related courses.

**About the editors**

Professor Marios Soutsos is Professor of Structures/Materials at Queen’s University Belfast, UK. He was previously a Lecturer/Reader in Structures and Concrete Technology at the Centre for Engineering Sustainability at University of Liverpool, UK, and has previous industry experience in Cyprus, Libya, Saudi Arabia and Bahrain.

978-0-7277-6375-4 | 592pp | August 2023 | Hardback | £100.00 | $122.00

Also in Construction materials

Concise Guide to Reinforced Concrete Design to Eurocode 2

Patrick Purcell (University College Dublin, Republic of Ireland)

978-0-72776572-7 | 180pp | March 2022 | Hardback | £45.00 | $64.50

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Stephen J Hall

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Edited by Ravindra K Dhir OBE and Kevin Paine
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Geotechnical and ground engineering

**ICE Handbook of Ground Investigation: A practical guide**

*Peter Reading and Miles Martin*

The *ICE Handbook of Ground Investigation* is a comprehensive and up-to-date guide to completing a ground investigation effectively. Chapters in the book follow the procedure of a ground investigation, guiding the reader from initial planning stages to completing and analysing the results. Coverage includes the latest technologies, methods and procedures used in ground investigation, showing how any site scenario can be tackled in a methodical way. Examples of best practice are shown and the book will help to ensure compliance with current British standards and Eurocodes. Written by two experienced practitioners and packed with practical advice and techniques, this handbook is essential reading for all ground practitioners involved in ground investigation.

**About the authors**

Peter Reading is Director of Peter Reading Geotechnical Consulting Ltd and part-time lecturer at Brunel University, UK. Miles Martin is Principal Engineer at SOCOTEC UK Limited.

978-0-7277-6387-7  |  448pp  |  September 2023  |  Hardback  |  £90.00  |  $120.00

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**Landslide Risk Assessment, Third edition**

*E Mark Lee and David K C Jones*

*Landslide Risk Assessment, Third edition* is the essential guide for practitioners on establishing the likelihood and extent to which future slope failures could adversely impact society and affect urban areas. This book examines a variety of approaches to landslide risk assessment and management, introducing the key challenges that practitioners will need to overcome when estimating the probability and consequences of landsliding, combining these to develop a measure of the risk, and making the transition between risk assessment and risk management. Now updated with the latest ISO guidance, coverage of climate change on landslide risk, the impact of technology on assessing risk plus much more, this book is the authority on this subject and a must have purchase for any practitioner operating in this area. This title will appeal to any geotechnical or civil engineer involved in slope engineering and landslide risk. It will have additional appeal to risk analysts, geomorphologists, hydrologists, foresters, environmental consultants, students, academics and researchers.

**About the authors**

Dr Mark E Lee is an engineering geomorphologist with over 40 years experience working in the energy sector and coastal engineering. He is a Fellow of the Institution of Civil Engineers and a Chartered Geologist. He has been the landslide Subject Matter Expert (SME) on a number of major international pipeline systems. David K C Jones is Emeritus Professor of Geography and the Environment at the London School of Economics, University of London, UK. He was involved in the production of chapters in the Royal Society report Risk: analysis, perception and management, and co-editing of Accident and Design: contemporary debates in risk management.

978-0-7277-6623-6  |  512pp  |  May 2023  |  Hardback  |  £120.00  |  $150.00
Also in Geotechnical and ground investigation

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Subhamoy Bhattachary (Surrey, UK; Zhejiang University, China), Rolando P Orense (American Society of Civil Engineers, USA; The Institute of Professional Engineers, New Zealand) Domenico Lombardi (University of Bristol, UK; University of Manchester, UK; Yamaguchi University, Japan)
978-0-7277-6166-8 | 480pp | February 2019 | Hardback | £94.00 | $125.50

UK Specification for Ground Investigation, Third edition
Association of Geotechnical and Geoenvironmental Specialists (AGS)
978-0-7277-6523-9 | 328pp | May 2022 | Paperback | £75.00 | $112.50
Infrastructure and transport

Deterioration and Maintenance of Pavements, Second edition
David Cudworth and Mujib Rahman

*Deterioration and Maintenance of Pavements* is a hands-on guide to the practicalities of pavement engineering. Now updated in this second edition and with additional information on principles of pavement design, this book covers the complete spectrum of pavement types, from footways to runways and from heavily trafficked roads in the UK to unpaved roads worldwide. Addressing specific practical issues including drainage and vehicle flow, and considering state-of-the-art data collection techniques for pavement evaluation, this book equips readers with the knowledge and tools to make judgements on appropriate maintenance strategies for a wide range of pavements. *Deterioration and Maintenance of Pavements* will be required reading for practicing pavement engineers, contractors, local authorities and students of pavement engineering around the world looking to gain a complete understanding of pavement deterioration and maintenance.

About the authors
David Cudworth is Programme Director at Amey Consulting, UK, and a Pavement Engineer with more than 35 years of experience in industry in both the UK and overseas. Mujib Rahman is Head of Department of Civil Engineering at Aston University, Birmingham, UK. He is a Chartered Engineer with more than 20 years of experience in academics and industry who lectures and leads research in asphalt material science, pavement engineering and infrastructure asset management.

978-0-7277-6508-6 | 254pp | May 2023 | Paperback | £100.00 | $122.00

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Digital Twins for Smart Cities: Conceptualisation, challenges and practices
Li Wan, Timea Nochta, Junqing Tang and Jennifer Schooling

Digital twin technology has made great strides in the engineering and manufacturing sector over the past decade; however, there remains confusion around what a digital twin is and how they can be utilised successfully at a city scale. *Digital Twins for Smart Cities* provides conceptual clarity and practical guidance for supporting city-scale digital twin (CDT) development, outlining challenges, showcasing real-life CDT practices globally and offering socio-technical frameworks to compare CDT projects. It is a much-needed reference for urban designers and planners, built environment professionals and digital-twin-related technology providers.

About the authors
Li Wan is an Associate Professor in Planning at the Department of Land Economy, University of Cambridge, UK. Timea Nochta is a Lecturer in the Institute of Local Government Studies at the University of Birmingham, UK. Junqing Tang is an Assistant Professor and an Assistant Dean at the School of Urban Planning and Design, Peking University, China. Jennifer Schooling OBE is Director of the Cambridge Centre for Smart Infrastructure and Construction (CSIC), UK.

978-0-7277-6600-7 | 168pp | April 2023 | Hardback | £70.00 | $85.00

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Digital Twins in the Built Environment: Fundamentals, principles and applications
Qiuchen Lu, Xiang Xie, Ajith Parlikad, Jennifer Schooling and Michael Pitt

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Peter Barnes (Blue Sky ADR, Ltd)
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978-0-7277-6650-2 | 288pp | May 2022 | Hardback | £80.00 | $120.00

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Peter Barnes
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Georgia Kremmyda  
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Alexander Hay (Southern Harbour Ltd, Canada)  
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Michael Schabas (CPCS Transcom, UK)  
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Husam AlWaer and Barbara Illsley (University of Dundee, UK)  
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**Sustainable Infrastructure: Principles into practice, Second edition**

Richard Fenner (University of Cambridge, UK), Judith Sykes (Expedition Engineering, UK) and Charles Ainger (MWH)  
978-0-7277-6671-7 | 424pp | November 2022 | Paperback | £70.00 | $105.00

**Temporary Works: Principles of design and construction, Second edition**

Edited by Peter F Pallett and Ray Filip (RKF Consult Ltd, UK)  
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**Underground Spaces Unveiled: Planning and creating the cities of the future**

Han Admiraal (Enprodes Management Consultancy BV, Netherlands) and Antonia Cornaro (Amberg Engineering, Switzerland)  
978-0-7277-6145-3 | 248pp | February 2018 | Hardback | £80.50 | $139.00
Law and contracts

Early Contractor Involvement: Improving the management of contract risk
Michael Smith, Matthew Finn and Jon Broome

Early Contractor Involvement explains how to structure and administer a process of early contractor involvement within a two-stage tender process. It provides clear practical guidance on the range of factors that need to be considered to achieve the benefits of early contractor involvement (ECI) which includes improved design, pricing and risk management. Drawing on a range of case studies and the authors’ first-hand experience, the book gives much needed practical insight into the optimal use of ECI as a procurement approach. It will be of interest to a range of professionals working in construction procurement, including clients, contractors and project managers, and also lawyers and professional consultants.

About the authors
Michael Smith is a Partner at Ashurst, specializing in the legal aspects of major infrastructure project procurement, domestic and international EPC contracting and other areas of non-contentious construction and engineering law. Matthew Finn is a Senior Managing Director at Ankura, London. He has experience working under different contracts within building and civil engineering projects, and provides training on JCT and NEC forms of standard contract. Dr Jon Broome BEng PhD FAPM has been involved with the NEC since 1993, first as an academic and for the last 20 plus years as an independent consultant.

978-0-7277-6588-8 | 216pp | September 2023 | Paperback | £60.00 | $90.00

NEC4: A User’s Guide
Jon Broome
978-0-7277-6205-4 | 344pp | September 2021 | Paperback | £57.25 | $86.00

NEC3: A User’s Guide
Jon Broome
978-0-7277-4109-7 | 312pp | March 2012 | Paperback | £57.25 | $108.00

Environmental Law for Sustainable Construction: A guide for construction, engineering and architecture professionals
Francine Baker and Jennifer Charlson

Environmental Law for Sustainable Construction gives a practical overview of key areas of environmental law as it affects the construction sector. Clearly structured for ease of reference, the book provides accessible coverage of core areas in a format that will help professionals and organisations to manage compliance issues relating to environmental law and to contribute to the improvement of environmental protection and sustainable development. It is an essential reference for a broad range of practitioners in the architecture, engineering and construction (AEC) industry that have responsibility for environmental issues.

About the authors
Dr Francine Baker, FHEA, FCICES, MCI Arb is Solicitor of the Supreme Court of England and Wales, UK (practising)

978-0-7277-6645-8 | 256pp | July 2023 | Hardback | £75.00 | $112.00
Fire Safety in Buildings Questions and Answers
Pat Perry

*Fire Safety in Buildings Questions and Answers* is a concise practical handbook on fire safety legislation, duties and requirements, providing answers to common questions that are asked about a range of fire prevention, protection and management issues. For each topic area the book explains key legislative requirements and fire safety duties, offers practical guidance for ensuring compliance, and includes a detailed list of references to other documents and guidance. It is an essential companion suitable for a broad range of professionals who require a concise guide to fire safety legislation, including engineers, architects, project managers, site managers, company directors, and health and safety professionals.

**About the author**

Pat Perry MIOSH qualified as an environmental health officer in 1978, and spent the early years of her career in local government enforcing environmental health regulations, particularly health and safety law, which became her passion. She has extensive knowledge of the sector and has served on various working parties on both health and safety and food safety issues. Pat also regularly contributes to professional journals as well as appearing frequently as a speaker at related conferences and seminars.

978-0-7277-6647-2 | 216pp | September 2023 | Paperback | £50.00 | $75.00

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**Health and Safety Questions and Answers Second edition**
Pat Perry

978-0-7277-6074-6 | 440pp | February 2016 | Paperback | £44.50 | $74.25

**Risk Assessments: Questions and Answers, Second edition**
Pat Perry

978-0-7277-6076-0 | 352pp | December 2016 | Paperback | £44.50 | $75.50
NEC4: Effective preparation and management of the construction programme

Tim Willis

NEC4: Effective preparation and management of the construction programme explains the critical role of the programme within the NEC4 suite of contracts. This fully illustrated title describes the vital role of the Accepted Programme, both as a contract document, and also as a fundamental tool in contractual procedures, such as its use in assessing changes to planned completion in close to real time, and its use in risk allocation. The book is an essential guide for anyone involved with NEC projects to help them understand the importance of properly managing the contract programme, including professionals involved in preparing an NEC contract, Project Managers who administer the programme, and contractors who must prepare and update them.

About the author
Tim Willis MA FCIArb is a commercial consultant at Willis Consultancy, a consultant solicitor with Morgan Phelps and a tutor for ICE training on the NEC suite of contracts. He has 25 years of experience providing commercial support and dispute resolution services to clients, contractors, consultants and subcontractors and has worked as a construction lawyer both in the UK and in the Far East. He lectures at a number of universities on dispute resolution, contracts and BIM.

978-0-7277-6662-5 | 224pp | September 2023 | Paperback | £55.00 | $82.50


Samantha Riggs, Anna Willetts and Leslie Heasman

Practical Guide to Waste Management Law, Second edition is a complete guide to the legal and regulatory framework relating to waste management. The book provides a concise, authoritative overview of operational waste management law and the practical implications of non-compliance. With a focus on the background, history and the context of waste management law, the book will provide the reader with the means of reviewing the legislation and an understanding of what the law requires. Fully updated throughout, this edition includes detailed coverage of numerous the changes in waste legislation which have occurred in the past 15 years.

About the authors
Samantha Riggs is a criminal defence barrister at 25 Bedford Row, UK, and a chartered waste and resources manager. She specialises in defending companies and individuals in environmental, financial and regulatory matters. Anna Willetts is an environmental criminal defence lawyer at gunnercooke llp, UK, and President of the Chartered Institution of Wastes Management. Leslie Heasman, Managing Director and Principal Environmental Chemist, at MJCA, UK, has over 30 years’ experience in waste management.

978-0-7277-6415-7 | 248pp | August 2023 | Hardback | £75.00 | $120.00
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About the editor
Jonathan Hinks MA, MSc, CEng, FICE is Technical Director (Dams and Reservoirs) at HR Wallingford, UK, and has 54 years of professional experience including 48 years in dams, flood control and water supply. He served on the ICE Reservoirs Committee from 2000 to 2003 and as chairman of the British Dam Society from 2007 to 2009. He was the UK representative on the ICOLD committee on seismic aspects of dam design from 1997 to 2010 and continues his participation as an observer. He is serving on a number of Panels of Experts for new dams in Africa and Asia and has published 63 technical papers.

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About the editor
Kevin Burgess has been working in consultancy across a wide range of coastal engineering and shoreline management projects since 1986 in various technical and management roles at Halcrow, CH2M and Jacobs. His technical experience covers strategic coastal planning and coastal process analysis, through to detailed design and R&D. He has been a member of the organising committee for this conference since 1998, taking on the role of conference chair in 2017.

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About the editors
Dragan A Savic is Professor of Hydroinformatics at the University of Exeter, UK. John Banyard is Chair of the Advisory Board for Water Informatics: Science and Engineering Centre for Doctoral Training (WISE CDT), UK, a joint venture between the Universities of Bath, Bristol, Cardiff and Exeter to establish a research centre to combine traditional Hydro Informatics with the emerging field of Big Data.

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