



BUILDING AND CONSTRUCTION

NEW TITLES AND KEY BACKLIST 2012

WELCOME TO THE BUILDING AND CONSTRUCTION CATALOGUE 2012

Dear Readers,

2011 was quite a year for our construction list, with the acquisition of hundreds of excellent titles from Butterworth Heinemann, Earthscan, and Newnes on top of the continued expansion of the existing SPON Press program. The resulting construction "super group" has this year been rebranded under the prestigious Routledge imprint, where it joins our Planning and Architecture books.

And so we entered 2012 expanded and rebranded. In the pages of this Routledge Building & Construction catalogue you will find some new editions of our long-running classics (such as the ninth edition of *Understanding JCT Standard Building Contracts* and the second edition of *Portfolio and Program Management Demystified*), some renowned imports (*Building Construction Handbook* and the *Quantity Surveyor's Pocket Book*), and a host of brand new titles written by an ever-expanding pool of world-class authors, not to mention the growing number of cutting edge IHS BRE Press publications we have been distributing worldwide for close to two years now.

Make sure you subscribe to our e-alerts, Twitter, and Facebook for instant updates on our activities. There is much more to come from us in 2012!

With best wishes,

Brian Guerin

Building and Construction Editor



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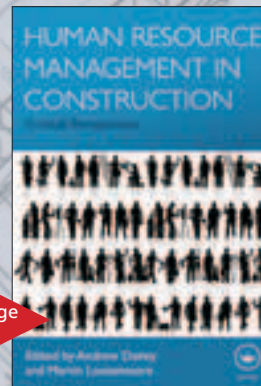
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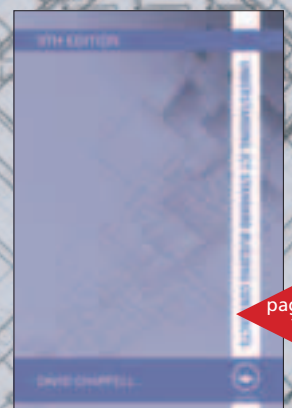
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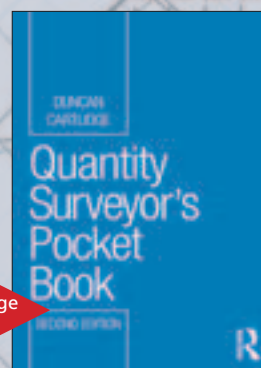
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WELCOME TO ROUTLEDGE


BUILDING AND CONSTRUCTION


NEW TITLES AND KEY BACKLIST 2012

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CONSTRUCTION PROJECT MANAGEMENT

An Integrated Approach

Peter Fewings



Presenting a new approach to project management in construction and engineering based on the author's practical experiences. It considers all aspects of project management with particular emphasis on increasing efficiency and communication at all stages while reducing costs, time and risk.

2005: 234 x 156: 432pp
Hb: 978-0-415-35905-4: **£100.00**
Pb: 978-0-415-35906-1: **£34.99**
eBook: 978-0-203-00698-6

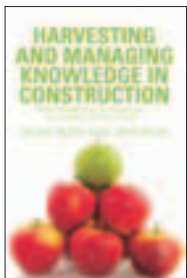
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TEXTBOOK

HARVESTING AND MANAGING KNOWLEDGE IN CONSTRUCTION

From Theoretical Foundations to Business Applications

Yacine Rezgui and John Miles both at Cardiff University, UK



A holistic approach to knowledge management is taken in this textbook to incorporate all of the relevant themes, tackling technological, socio-cultural and organizational issues, with the creation of value as a focus throughout. Explains how to use algorithms in knowledge management, as well as giving a model for successful knowledge management in construction organizations.

Selected Contents: 1. Introduction 2. Changing Business Relationships 3. Construction in the Knowledge Economy 4. Evolution of Knowledge Management in the Construction Industry 5. Knowledge Perspectives, Approaches and Creation Processes 6. Knowledge Management Systems 7. Domain

Conceptualization through Ontology 8. Construction Ontology Development 9. Complex Problem Solving: The Use of Evolutionary Algorithms 10. Application of Genetic Algorithms for Design 11. Future Technology for Knowledge Management 12. Knowledge-Infused Alliances of Companies 13. Ingredients for a Successful Knowledge Construction Organisation 14. Value Creation: The Future of Knowledge Management in Construction

2011: 234 x 156: 232pp
Hb: 978-0-415-54595-2: **£100.00**
Pb: 978-0-415-54596-9: **£29.99**
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For more information, visit: www.routledge.com/9780415545969

MANAGING INTERDISCIPLINARY PROJECTS

A Primer for Architecture, Engineering and Construction

Stephen Emmitt, Loughborough University, UK

This book covers vital areas of project management, whose importance has only recently come to be recognized. Suitable for students at both undergraduate and graduate level it fills the gap between introductory textbook and research monograph. Practitioners will also find it a useful insight into the social aspect of project management, with implications and applications which apply even beyond the realm of the built environment.

Selected Contents: Introduction 1. Interfaces 2. Communication 3. Trust 4. Discussions 5. Decisions 6. Context 7. Assembly 8. Development 9. Learning 10. Implementation

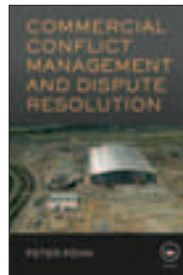
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TEXTBOOK

COMMERCIAL CONFLICT MANAGEMENT AND DISPUTE RESOLUTION

Peter Fenn, University of Manchester, UK



Commerce is inherently complex and the sums of money involved can be astronomical, so it is no surprise that conflicts and disputes are all too common. There are numerous techniques designed to resolve these problems, and this book summarizes the most important of these, as well as alternative dispute resolution methods. The reader seeking a deeper understanding of these procedures will also find clear explanations of the principles and methods for conflict management, such as negotiation, risk management, mediation and conciliation.

As well as outlining these different techniques, guidance on which approach is appropriate in common situations is also

given, helping the reader apply what they have learned to the real world. The significance of cultural issues is explained, before the reader is presented with suggestions for how to take these into account. Throughout, the book is illustrated with case studies from examples as diverse as Mumbai's DabbaWalla, The First World War and Terminal 5 at London Heathrow.

Written with undergraduate students in mind, this book also serves to give a neat and brief overview for professionals. Those studying or working in commerce generally, construction project management, construction management, and construction law will find this to be an invaluable book.

Selected Contents: 1. Introduction 2. Conflict and Dispute 3. Conflict Management and Dispute Avoidance 4. Negotiation 5. Mediation 6. Adjudication 7. Arbitration 8. Other ADR Techniques 9. Cooperation and Collaboration 10. Game Theory 11. The Stages of Dispute 12. The Psychology of Disputes Appendix: The UNCITRAL Model Law on International Commercial Arbitration Ratification and Commercial Reservation

2011: 234 x 156: 176pp
Hb: 978-0-415-57826-4: **£100.00**
Pb: 978-0-415-57828-8: **£19.99**
eBook: 978-0-203-85221-7

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NEW

3RD EDITION

DISSERTATION RESEARCH AND WRITING FOR CONSTRUCTION STUDENTS

S.G. Naoum, London South Bank University, UK



Dissertation Research and Writing for Construction Students covers topic selection, research planning, data collection and methodology, as well as structuring and writing the dissertation – in fact, everything needed for a successful write-up.

A new section advising students on the use of the SPSS software package 'Statistical Analysis for Social Sciences' will help readers make the best use of this tool. New examples and references ensure that this new edition of the bestselling construction dissertation guide is right up to speed with current practice.

This is the ideal resource for students involved in research in construction management, building and quantity surveying.

Selected Contents: 1. Introduction **Part 1: Preparing the Ground and Reviewing the Literature** 2. Selecting a Topic and Writing the Dissertation Proposal 3. Reviewing the Literature **Part 2: Research Design and Methodology** 4. Approaches to Data Collection 5. Techniques for Data Collection 6. Questionnaire Construction **Part 3: Analysis and Preparation of the Results** 7. Measurements and Probability 8. Analysis of the Results 9. Structuring and Writing the Dissertation 10. Dissertation Supervision and Assessment. **Appendices** 1. Examples of Dissertation Proposals 2. London South Bank University: Example of a Questionnaire 3. Statistical Tables 4. Construction Industry Employee Injury Statistics 5. Using SPSS 6. Example of Presenting Interview Results in a Tabulated Format

July 2012: 234 x 156: 208pp
Pb: 978-0-415-53844-2: **£21.99**

For more information, visit: www.routledge.com/9780415538442

TEXTBOOK

COMPUTER AIDED DESIGN GUIDE FOR ARCHITECTURE, ENGINEERING AND CONSTRUCTION

Ghassan Aouad, Song Wu and Angela Lee all at University of Salford, UK and Timothy Onyenobi

Recent years have seen major changes in the approach to Computer Aided Design (CAD) in the architectural, engineering and construction (AEC) sector. CAD is increasingly becoming a standard design tool, facilitating lower development costs and a reduced design cycle. Not only does it allow a designer to model designs in two and three dimensions but also to model other dimensions, such as time and cost into designs.

Computer Aided Design Guide for Architecture, Engineering and Construction provides an in-depth explanation of all the common CAD terms and tools used in the AEC sector. It describes each approach to CAD with detailed analysis and practical examples. Analysis is provided of the strength and weaknesses of each application for all members of the project team, followed by review questions and further tasks.

Coverage includes:

- 2D CAD
- 3D CAD
- 4D CAD
- nD modelling
- Building Information Modelling
- parametric design, virtual reality and other areas of future expansion.

With practical examples and step-by-step guides, this book is essential reading for students of design and construction, from undergraduate level onwards.

Selected Contents: 1. Introduction to CAD for the AEC/FM Industry 2. Project and Product Modelling 3. 2D CAD 4. 3D CAD 5. BIM (Building Information Modelling) 6. 4D CAD 7. nD Modelling

2011: 246 x 174: 136pp
Hb: 978-0-415-49505-9: **£100.00**
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THE IMPACT OF BUILDING INFORMATION MODELLING

Transforming Construction

Ray Crotty, C3 Systems Ltd, UK



Construction projects involve a complex set of relationships, between parties with different professional backgrounds trying to achieve a very complex goal. Under these difficult circumstances, the quality of information on which projects are based should be of the highest possible standard. The line-based, two dimensional drawings on which conventional construction is based render this all but impossible. This is the source of some major shortcomings in the construction industry, and this book focuses on the two most fundamental of these: the failure to deliver projects predictably: to the required quality, on time and within budget; and the failure of most firms in the industry to make a survivable level of profit. By transforming the

quality of information used in building, BIM aims to transform construction completely.

After describing and explaining these problems, the way in which BIM promises to provide solutions is examined in detail. A discussion of the theory and practice of BIM is also provided, followed by a review of various recent surveys of BIM usage in the US, UK and selected European economies. The way in which other industries, including retail and manufacturing, have been transformed by information are explored and compared with current developments in the deployment of BIM in construction. Five case studies from the UK show how BIM is being implemented, and the effects it is having on architects and contractors.

This book is perfect for any construction professional interested in improving the efficiency of their business, as well as undergraduate and postgraduate students wishing to understand the importance of BIM.

Selected Contents: 1. UK Industry Background 2. International Context 3. Introduction to Building Information Modelling 4. The Immediate, Project-Level Impact of BIM 5. The Strategic, Industry Level Impact of BIM 6. Build Off-Site 7. BIM Implementation (including International Case Studies) 8. Legal Issues 9. Technical issues 10. Commercial Issues 11. Policy Issues 12. Cultural Issues

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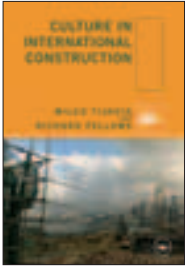


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Operations Management for Construction	Chris March	2009	978-0-415-37112-4	Hardback	£100.00
			978-0-415-37113-1	Paperback	£26.99
			978-0-203-92803-5	e-Book	
Performance Improvement in Construction Management	Edited by Brian Atkin and Jan Borgbrant	2009	978-0-415-54598-3	Hardback	£82.00
			978-0-203-87608-4	e-Book	
Ethics for the Built Environment	Peter Fewings	2009	978-0-415-42982-5	Hardback	£100.00
			978-0-415-42983-2	Paperback	£33.99
			978-0-203-92690-1	e-Book	
Location-Based Management for Construction	Russell Kenley and Olli Seppänen	2009	978-0-415-37050-9	Hardback	£95.00
			978-0-203-03041-7	e-Book	
Relational Contracting for Construction Excellence	Albert P. Chan, Daniel W. Chan and John F. Yeung	2009	978-0-415-46669-1	Hardback	£85.00
			978-0-203-92672-7	e-Book	
Technology, Design and Process Innovation in the Built Environment	Edited by Peter Newton, Keith Hampson and Robin Drogemuller	2009	978-0-415-46288-4	Hardback	£105.00
			978-0-203-92832-5	e-Book	
Rebuilding After Disasters	Edited by Gonzalo Lizarralde, Cassidy Johnson and Colin Davidson	2009	978-0-415-47254-8	Hardback	£62.99
			978-0-203-89257-2	e-Book	
Hazards and the Built Environment	Edited by Lee Boshier	2008	978-0-415-42729-6	Hardback	£100.00
			978-0-415-42730-2	Paperback	£43.99
			978-0-203-93872-0	e-Book	
Construction Delays	Roger Gibson	2008	978-0-415-34586-6	Hardback	£82.99
			978-0-203-93809-6	e-Book	

CULTURE IN INTERNATIONAL CONSTRUCTION

Wilco Tijhuis, WT/Beheer BV, the Netherlands and **Richard Fellows**, University of Hong Kong



Despite the wide range of technologies involved, the construction industry still relies heavily on one old-fashioned component: the human. The clients, managers, designers, investors, and a whole host of other stakeholders are all involved in a crucial series of relationships that are just as important to project success as technical know-how. As construction projects become increasingly international as well as interdisciplinary, the risk and cost of disharmonious working grows ever larger. The growth of IT and the increased reliance on large mergers and joint-ventures have created new problems, which require a new set of solutions.

Recent research has generated profound insights into international differences in business culture. This new work presents up-to-date theory and practical guidance, identifying situations in which cultural differences present challenges. A focus on 'critical incidents', demonstrated in a range of case studies will help readers to foresee such situations in their own projects and processes, and so improve strategic and operational decision-making in construction collaborations. Detailed examples are taken from the Netherlands, Germany, Poland, Turkey, the UAE, and China, to explore a variety of problems in very different economic and cultural surroundings.

A range of professionals (contractors, developers, investors, architects, engineers, governments, public/private clients) will find this book highly valuable, as will researchers and students.

Selected Contents: 1. Introduction 2. The Construction Industry, A Globalizing Business: A Short Overview of Trends in the Market 3. Culture's Influence in Construction: A Short Overview of Theories 4. Six Case-studies: Netherlands, Germany, Poland, Turkey, UAE, China 5. Lessons Learnt and Recommendations 6. A Future-vision: Taking-up the Challenge

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Hb: 978-0-415-47275-3: **£65.00**
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UNDERSTANDING ORGANISATIONAL CULTURE IN THE CONSTRUCTION INDUSTRY

Vaughan Coffey, Queensland University of Technology, Australia

Series: *Spon Research*



Using the construction industry as the subject of his research, Vaughan Coffey investigates the culture/performance link using a new measure of company performance and an evaluation of organisational culture which is largely behaviourally-based.

Selected Contents: 1. An Introduction to Organisations, Culture, Performance and Construction 2. Organisations, Culture and Climate 3. Organisational Culture Studies 4. Measuring Organisational Performance and Effectiveness 5. Organisational Culture and Effectiveness – The Link Between Them 6. Research on the Relationship Between Organisational Culture and Performance in Hong Kong Construction Companies 7. The Hong Kong Experiment – Presentation of Demographic

Data, Overall Results and some Descriptive and Qualitative Analysis 8. Detailed Statistical Analysis of the Docs and Pass Data in Relation to the Major Research Questions 9. Four Hong Kong Construction Mini-Case Studies 10. Conclusions and Future Research Directions

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NEW PERSPECTIVES ON CONSTRUCTION IN DEVELOPING COUNTRIES

Edited by **George Ofori**, National University of Singapore



Developing countries face the challenge of maintaining economic growth and socio-economic development, at the core of which sits the construction industry. Considerable research on construction in developing countries took place in the 1970's and 1980's, but little since, a gap which this book fills.

Including contributions from prominent academics and practitioners in Australia, China, the Netherlands, Portugal, Singapore, South Africa, Switzerland, and the UK, this is a truly international analysis of a subject of global interest. The most insightful and relevant of recent research on topics such as Millennium Development Goals, the informal

construction sector, human resource development, technology, finance and social change, are all addressed in the context of the construction industry in the developing world. Also considered are other key aspects of construction industry development such as institution building, nurturing of contractors and consultants and championing of industry development programmes.

This is essential reading for researchers, professionals and students interested in the construction industry in developing countries. Readers of this book will be interested in its companion volume; *Contemporary Issues in Construction in Developing Countries*.

Selected Contents: 1. The Construction Industries in Developing Countries: Strategic Review of the Book **Part 1: Construction and Economic Development** 2. Changes in Societies and Economies: New Imperatives 3. Construction in the Economy and its Role in Socio-Economic Development **Part 2: Construction Industry Development: Macro-level Issues** 4. Construction and Millennium Development Goals 5. Institution Building in Construction Industries in Developing Countries 6. Championing of Construction Industry Development Programmes and Initiatives 7. Informal Construction Activity in Developing Countries **Part 3: Construction Development Issues: Key Areas** 8. Construction Technology Development and Innovation 9. Human Resource Development in Construction 10. Contractor Development 11. The Critical Role of Consulting Firms in the Acceleration of Infrastructure Delivery and the Improvement of the Quality of Life 12. Financing Construction Projects in Developing Countries. Author Index. Subject Index

2011: 234 x 156: 408pp
Hb: 978-0-415-58572-9: **£75.00**
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For more information, visit: www.routledge.com/9780415585729

CONTEMPORARY ISSUES IN CONSTRUCTION IN DEVELOPING COUNTRIES

Edited by **George Ofori**, National University of Singapore



This volume challenges underlying assumptions and focuses on the distinct characteristics of construction in developing countries. In so doing it considers the issues from the perspective of developing countries to present a strong contemporary picture for researchers.

Selected Contents: Part 1: Industry Practices Part 2: Industry Performance on Projects Part 3: Strategies Part 4: Reconstruction Programmes Part 5: Project Management Part 6: Industry Development

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TEXTBOOK

2ND EDITION

PROGRAMMING AND SCHEDULING TECHNIQUES

Thomas Uher, Project Management Consultant, Australia and
Adam S. Zantis, University of New South Wales, Australia

Planning is an important management function and its effective execution is crucial to ensure the success of any project. This second edition of Thomas Uher's and Adam Zantis' textbook maintains its focus on operational rather than strategic aspects of programming and scheduling of projects, providing the reader with the practical planning skills needed to be successful.

Unlike most other textbooks that largely focus on the critical path method, *Programming and Scheduling Techniques* includes a comprehensive review of a range of practices used around the world. Topics covered in this thoroughly revised edition include:

- deterministic scheduling techniques including the bar chart, the critical path method, the critical chain method, the multiple activity chart and the line of balance
- a comparison of the critical path and critical chain scheduling techniques
- options for computer-based scheduling
- stochastic scheduling techniques including the critical path method based on Monte Carlo simulation and the Program Evaluation and Review Technique (PERT)
- risk in scheduling
- work study.

By covering a broad range of scheduling techniques this book is suitable for those planning projects in any industry, particularly in interdisciplinary or international contexts.

Learning activities, step-by-step guides, and a downloadable answers booklet make sure no reader is left behind. Written for students studying undergraduate and postgraduate architecture, building, construction/project management, quantity surveying, property development and civil engineering programs.

Selected Contents: 1. The Concept of Planning 2. Bar Charts 3. The Critical Path Method 4. Resource Management 5. Overlapping Network Models 6. Project Control 7. Critical Path Scheduling by Computer 8. Critical Chain Scheduling 9. Multiple Activity Charts 10. Line of Balance Technique 11. Work Study 12. Risk and Scheduling 13. The Program Evaluation and Review Technique (PERT)

2011: 234 x 156: 304pp
 Hb: 978-0-415-60168-9: £100.00
 Pb: 978-0-415-60169-6: £24.99
 eBook: 978-0-203-83600-2

For more information, visit: www.routledge.com/9780415601696

MEDIATION IN THE CONSTRUCTION INDUSTRY

An International Review

Edited by **Penny Brooker**, University of Wolverhampton, UK and
Suzanne Wilkinson, University of Auckland, New Zealand

Series: CIB

This book identifies the emerging international practices within construction mediation, and seeks solutions to the many legal and commercial challenges which they pose. It presents an international collection of reviews by experts, and allows a comparative commentary on the practice of construction mediation and the legal challenges facing its development.

Selected Contents: 1. Introduction: International Review of Construction Mediation 2. Construction Mediation in Australia 3. Construction Mediation in Germany 4. Construction Mediation in Hong Kong 5. Construction Mediation in Malaysia 6. Construction Mediation in New Zealand 7. Construction Mediation in South Africa 8. Construction Mediation in Turkey 9. Construction Mediation in UK (England and Wales) 10. Conclusion: Review of International Mediation Practices and Key Legal Challenges

2010: 234 x 156: 224pp
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 eBook: 978-0-203-89301-2

For more information, visit: www.routledge.com/9780415471756

TEXTBOOK

ORGANIZATION MANAGEMENT IN CONSTRUCTION

Edited by **Paul S. Chinowsky**, University of Colorado, Boulder, USA and
Anthony D. Songer, Boise State University, USA



Today's construction environment is changing at an unprecedented pace and executives are facing a diverse set of issues – globalization, economics, workforce demographics, and technology. Moreover the traditional issues of competition and delivery are being challenged by new laws and new industry entrants; and the tasks of project and organization management are being overhauled. This all demands greater leadership from senior management.

Construction executives typically reach senior level after many years mastering the art of project management, which has given them very little time or opportunity to learn the concepts and principles of organization leadership – unlike their counterparts in other industries who have been steeped in this.

This book provides a comprehensive overview of the key issues that organization leaders must understand and address. It provides concise summaries by leading international authorities of the ten key strategic management issues, shows how they have emerged, and outlines their potential impact on the construction organization.

Selected Contents: 1. Introduction and Overview 2. Leadership 3. Knowledge Management 4. Network and Culture 5. Strategic Innovation 6. Human Resource Development 7. Globalization 8. Strategic Issues in Entering Emerging Markets 9. Project Delivery and Financing 10. Strategic Safety Management 11. Corporate Social Responsibility 12. Conclusion

2011: 246 x 174: 216pp
 Hb: 978-0-415-57257-6: £100.00
 Pb: 978-0-415-57261-3: £29.99
 eBook: 978-0-203-85610-9

For more information, visit: www.routledge.com/9780415572613



COLLABORATIVE WORKING IN CONSTRUCTION

Edited by **Dino Bouchlaghem**, Loughborough University, UK



It is now widely recognized that an effective collaboration strategy based on the implementation of information systems and careful consideration of the wider organizational issues is key to delivering construction projects successfully.

Against a backdrop of rapidly developing communication technologies, and continuing efforts to improve working practices, this book provides clear explanations of how to successfully devise and implement a collaboration strategy.

The concepts introduced include:

- collaborative working as a holistic concept in construction
- a new framework on how to plan and implement effective collaboration
- change management approaches for introducing collaborative working systems, and implementing new technologies in construction projects.

Examinations of emerging technologies like mobile and wireless are combined with overviews of relevant management theories, and industry case studies, to provide a comprehensive guide suitable for both practitioners and students. Underpinned by research carried out by leading academics in co-operation with practitioners using the latest technologies, this is the most up-to-date and relevant guide to this crucial subject available. This is essential reading for all practitioners and serious students of management in the built environment.

Selected Contents: 1. Introduction 2. Collaborative Working – Key Concepts 3. Wireless and Mobile Technologies for Collaboration in Construction 4. Multi Disciplinary Collaborative Design and Construction 5. Planning and Implementation of Collaborative working in Construction 6. Change Management 7. Collaboration Environment in Practice – Case Studies 8. Change Management Framework 9. Concluding Notes

2011: 234 x 156: 248pp
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Paul Rayner, Logica, UK and **Geoff Reiss**, The Program Management Group, UK

You're now responsible for a programme, or you've got a portfolio to manage? Where do you start? Right here!

Projects are not simply the bread and butter of an organisation. Form them into programmes or portfolios and they can be prioritised and integrated to deliver change to your organization in line with your strategic vision. You will be able to control costs and risks and bring together a complex series of themes effectively.

This overhauled second edition now combines portfolio management as a parallel theme with programme management, and it is brought in line with the current thinking of the Association for Project Management and the Project Management Institute. It is written for managers in both the public and private sectors. This new edition includes half a dozen short case studies (from Belgium's Fortis Bank, a software company, local government, and central government), along with more on cross-functional management.

Together with *Project Management Demystified*, it provides the tools to manage your projects, your programmes and your portfolio to a very high level.

Selected Contents: 1. Introduction 2. Doing the Right Projects 3. Doing Projects Right 4. Roles and Relationships 5. Governance 6. Programme and Project Offices

August 2012: 234 x 156: 304pp

Pb: 978-0-415-55834-1: **£24.99**

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NEW

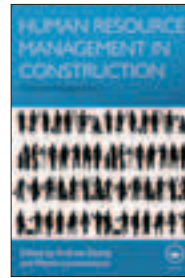
2ND EDITION

HUMAN RESOURCE MANAGEMENT IN CONSTRUCTION

Critical Perspectives

Edited by **Andrew Dainty**, Loughborough University, UK and

Martin Loosemore, University of New South Wales, Australia



In this new edition of their leading text, Andrew Dainty and Martin Loosemore have assembled a collection of perspectives which critically examine key aspects of the HRM function in the context of contemporary construction organizations.

The aim of this second edition is to provide a more critical commentary on the ways in which the industry addresses the HRM function and how this affects those who work within the industry. To this end, the editors have gathered contributions from many of the leading thinkers within construction HRM. This provides essential reading for students of construction and project management, and reflective practitioners who are interested in theoretically informed

insights into industry practice and its implications.

Selected Contents: 1. HRM in Construction: Critical Perspectives 2. Human Resource Management in the Construction Context: 3. The Development of Building Labour in Britain in the Twentieth Century: is it distinct from elsewhere in Europe? 4. Aligning Human Resource Development with Organisational Strategy in Construction: What Else Matters? 5. Competing on Identity Rather Than Price 6. Occupational Health, Safety and Workers' Wellbeing 7. Equality, Diversity, Inclusion and Work-life Balance in Construction 8. Employment Relations in Construction 9. A Critique of People Resourcing 'Best Practice' in Construction Organisations 10. Reward Management in Construction

May 2012: 234 x 156: 304pp

Hb: 978-0-415-59306-9: **£100.00**

Pb: 978-0-415-59307-6: **£29.99**

eBook: 978-0-203-84247-8

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CONSTRUCTION BUSINESS MANAGEMENT - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Collaborative Construction Information Management	Edited by Geoffrey Shen, Peter Brandon and Andrew Baldwin	2009	978-0-415-48422-0	Hardback	£80.00
			978-0-203-88363-1	e-Book	
Business Organisation for Construction	Chris March	2009	978-0-415-37009-7	Hardback	£100.00
			978-0-415-37010-3	Paperback	£26.99
			978-0-203-92802-8	e-Book	
Risk: An Introduction	Ben Ale	2009	978-0-415-49089-4	Hardback	£100.00
			978-0-415-49090-0	Paperback	£20.99
			978-0-203-87912-2	e-Book	
Employee Resourcing in the Construction Industry	Ani Raiden, Andrew Dainty and Richard Neale	2009	978-0-415-37163-6	Hardback	£85.00
			978-0-203-93134-9	e-Book	
Managing Knowledge in the Construction Industry	Alexander Styhre	2009	978-0-415-46344-7	Hardback	£80.00
			978-0-203-08998-9	e-Book	
Managing Work-Life Balance in Construction	Helen Lingard and Valerie Francis	2009	978-0-415-37008-0	Hardback	£82.99
			978-0-203-03011-0	e-Book	
Finance and Control for Construction	Chris March	2009	978-0-415-37114-8	Hardback	£100.00
			978-0-415-37115-5	Paperback	£26.99
			978-0-203-92804-2	e-Book	
Corporate Social Responsibility in the Construction Industry	Edited by Michael Murray and Andrew Dainty	2008	978-0-415-36207-8	Hardback	£100.00
			978-0-415-36208-5	Paperback	£34.99
			978-0-203-01233-8	e-Book	
Innovation in Small Construction Firms	Peter Barrett, Martin Sexton and Angela Lee	2008	978-0-415-39390-4	Hardback	£68.99
			978-0-203-93767-9	e-Book	



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RESPONSIBLE CORPORATE STRATEGY IN CONSTRUCTION AND ENGINEERING

'Doing the Right Thing?'

Martin Loosemore, University of New South Wales, Australia and
Florence Phua, University of Reading, UK



This book addresses how consulting and contracting firms in the construction and engineering industries integrate Corporate Social Responsibility (CSR) into business strategy and how this translates into better business performance. In the context of the current global drive towards sustainability, it seeks to untangle the rhetoric and reality of CSR, providing a guide to effective and meaningful engagement with the community in the boardroom.

Ideas, concepts, theories and debates in the previously separate areas of corporate performance; corporate social responsibility; corporate strategy and; corporate governance are integrated for the first time in this book, promoting a

more liberal and wider debate about CSR. The result is an important and timely examination of a new challenge which faces every firm in the engineering and construction industry, from the very largest transnational corporations, to consultants and to the many thousands of small and medium sized enterprises that employ the vast majority of people in the industry.

Contemporary research is integrated with practice throughout this book in a clear and easy-to-follow style. The extensive use of real-life examples ensures that the content is of value to managers who have to deal with the reality of the industry on a day-to-day basis. The case studies of some of the world's leading firms provide rich qualitative data to support the arguments and are an excellent source of learning and teaching material to the subject of CSR for students.

Selected Contents: 1. Strategic Corporate Social Responsibility 2. Socially Responsible Corporate Governance 3. Strategic Business Ethics 4. Case Studies 5. Conclusions

2010: 234 x 156: 192pp

Hb: 978-0-415-45909-9: £100.00

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For more information, visit: www.routledge.com/9780415459105



NEW

RISK MANAGEMENT IN ENGINEERING AND CONSTRUCTION

Tools and Techniques

Stephen Ogunlana, Heriot-Watt University, UK and **Prasanta Dey**, Aston Business School, UK

An understanding of the principles of risk management in engineering and construction is increasingly important within the industry, and this book gathers contributions from leading experts around the world to provide just that. The most important and effective applications of risk management tools and techniques are explained in a clear and detailed way. *Risk Management in Engineering and Construction* is essential reading for practitioners, graduate students and researchers.

December 2012: 234 x 156: 352pp

Hb: 978-0-415-48017-8: £45.00

eBook: 978-0-203-88705-9

For more information, visit: www.routledge.com/9780415480178



GREEN BUILDINGS AND THE LAW

Edited by **Julie Adshead**, Salford Law School, UK



In countries such as the UK, the energy used in constructing, occupying and operating buildings represents approximately fifty percent of greenhouse gas emissions. Pressure to improve the environmental performance of buildings during both construction and occupancy, particularly to reduce carbon emissions from buildings, has become intense.

Understandably, legislation and regulation are driving green development and compliance. And this is happening in a wide variety of ways. This review of the law in key jurisdictions for the research community, lawyers, the construction industry and government examines some of the mechanisms in place – from the more traditional building regulation controls to

green leases and the law relating to buildings and their natural environment. Members of the CIB TG69 research group on 'Green Buildings and the Law' review aspects of the law relating to green development in a range of jurisdictions.

Selected Contents: 1. Planning and Policies for Sustainable Development in California and the San Diego Region 2. Potential Harmful Environmental Impacts as a Consequence of Material and System Specifications, Installation and Operations in Current US Green Building Practices 3. Covenants and Building Regulations: A Twin Track Approach to Improving the Energy Performance of Dutch Buildings 4. The Quest for Sustainable Buildings: Getting it Right at the Planning Stage 5. Green Buildings: A Critical Analysis of the Turkish Legislation 6. Surveying the Sustainable and Environmental Legal and Market Challenges for Real Estate 7. Sustainable Development and the South African Constitution: Implications for Built Environment Legislation 8. Energy Efficiency in Buildings and Building Control Regulations in South Africa 9. The Extended Australian Urban Dwelling: Key Issues Relating to Private Open Space in Expanding Residential Suburbia 10. China Building Control on Green Buildings 11. Green Buildings and the Law in Taiwan 12. Climate Change and the Construction Industry: Sustainability Challenges for Singapore

2011: 234 x 156: 288pp

Hb: 978-0-415-55926-3: £70.00

eBook: 978-0-203-86680-1

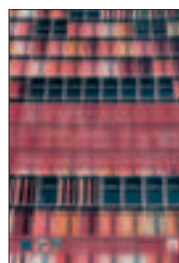
For more information, visit: www.routledge.com/9780415559263

2ND EDITION

A GREEN VITRUVIUS

Principles and Practice of Sustainable Architectural Design

Vivienne Brophy and **J. Owen Lewis**, both at University College Dublin, UK



Two thousand years ago the Roman architect Marcus Vitruvius Pollio wrote the ten books on architecture establishing the concept of the pattern book offering design principles and solutions that is still referred to in every architect's education. *A Green Vitruvius* is intended as a green pattern book for today. Now fully updated, this well established textbook provides advice suitable for undergraduate and post graduate students on the integration of sustainable practice into the design and construction process, the issues to be considered, the strategies to be adopted, the elements of green design and design evaluation within the process. Classic design elegance is found in the holistic clear solution.

Selected Contents: The Green Building. The Imperative to Green Design Architectural Quality, Quality of Service **Part 1: Process** Introduction Inception Design Tender Procedure Construction Operation Refurbishment **Part 2: Issues** Introduction. Comfort Health Environment **Part 3: Strategies** Introduction. Urban and Neighbourhood Site Selection and Analysis. Site Planning. Building Form. Building Envelope Finishes. Services, Equipment and Controls Renovation **Part 4: Elements** Components Materials **Part 5: Evaluation** Introduction. Design Evaluation Tools. Building Performance Simulation Tools. Environmental Rating Systems. Life Cycle Cost. References

2011: 297 x 210: 152pp

Hb: 978-1-84971-311-5: £90.00

Pb: 978-1-84971-191-3: £34.99

eBook: 978-1-84977-692-9

For more information, visit: www.routledge.com/9781849711913



NEW

TEXTBOOK

CARBON MANAGEMENT IN THE BUILT ENVIRONMENT

Rohinton Emmanuel and **Keith Baker** both at Glasgow Caledonian University, UK

Three broad sectors of the economy are generally recognized as key to a low carbon future: energy, construction and transportation. Of these, carbon management in the built environment remains the least well-studied.

This much-needed book brings together the latest developments in the field of climate change science, building design, materials science, energy and policy in a form readily accessible to both students of the built environment and practitioners. Although several books exist in the broad area of carbon management, this is the first to bring together carbon management technology, technique and policy as they apply to the building sector.

Clear and succinct sections on the overarching principles, policies, approaches and technologies are combined with case studies and more in-depth coverage of the most relevant topics. It explains how to produce a simple carbon footprint calculation, while also being an informative guide for those developing or implementing more advanced approaches. This easy to read book is the ideal primer for anyone needing to get to grips with carbon management in the built environment.

Selected Contents: 1. Historical Background: from Sustainable Development to Carbon Management 2. Overview of Climate Change 3. Sectoral Approaches to Carbon Management 4. Energy Generation for a Low Carbon Built Environment 5. Carbon Management in the New Build 6. Carbon Management in the Existing Stock 7. Carbon Management in Cities 8. Operational and Embodied Carbon in Buildings 9. Regulations and Incentives for Low/Zero Carbon (LZC) Buildings 10. Tools and Assessment Systems for the Construction Industry 11. Carbon, GHG and Sustainability Accounting 12. Carbon Accounting in Organisations and Industry

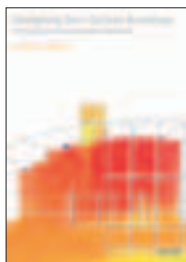
June 2012: 246 x 174: 240pp
Hb: 978-0-415-68406-4: **£100.00**
Pb: 978-0-415-68407-1: **£29.99**
eBook: 978-0-203-80331-8

For more information, visit: www.routledge.com/9780415684071

NEW

DESIGNING ZERO CARBON BUILDINGS USING DYNAMIC SIMULATION METHODS

Ljubomir Jankovic, Birmingham City University, UK



This book develops a structured method for zero carbon design and demonstrates that it is perfectly possible to design new or retrofit zero carbon buildings today, using existing technologies.

The book argues that zero carbon living is not about a considerable change of behaviour, but that it is about design that works with climate rather than against it, that uses predominantly passive rather than active means for achieving thermal comfort, and that is well tested, integrated and optimised using dynamic simulation. Using this method, designers can start making a difference today.

This book therefore makes a case for change: a change of our perceptions that we are dealing with an impossible problem to solve, a change of our business and economic models, and a change of our attitudes towards zero carbon design and zero carbon living.

Selected Contents: Part 1: Introduction Part 2: Global Context Part 3: Site Context Part 4: Building Context Part 5: Renewable Energy Context Part 6: End Game

February 2012: 297 x 210: 336pp
Pb: 978-1-84971-294-1: **£35.00**
eBook: 978-0-203-13575-4

For more information, visit: www.routledge.com/9781849712941



GREEN BUILDING WITH CONCRETE

Sustainable Design and Construction

Edited by **Gajanan M. Sabnis**, Consultant, Silver Spring, Maryland, USA

The first to provide an overview of sustainability and concrete, this book surveys the material's history in the green building movement and presents state-of-the-art methodologies and best practices. Offering insight into both the technological and social developments guiding the introduction of green buildings, it explains how to make the most of concrete in sustainable design. International contributors cover a range of topics, including the benefits of concrete's thermal mass; mitigation of urban heat island effects; reduction of construction waste; use of supplementary cementitious materials; life-cycle analysis; and leadership in energy and environmental design (LEED) standards.

2011: 235 x 156: 336pp
Hb: 978-1-4398-1296-9: **£82.00**

For more information, visit: www.routledge.com/9781439812969

NEW

ZERO-CARBON HOMES

A Road Map

Joanna Williams, Bartlett School of Planning, University College London, UK



'This is the book the world – of planning, architecture and housing – has been waiting for: the definitive guide to low-carbon construction' – Sir Peter Hall

Housing is a major contributor to CO2 emissions in Europe and America today and the construction of new homes offers an opportunity to address this issue. Providing homes that achieve 'zero carbon', 'carbon neutral', 'zero-net energy' or 'energy-plus' standard is becoming the goal of more innovative house-builders globally, whilst energy providers seek to decarbonise the energy supply to new and existing development.

Various new technical systems for achieving these goals are beginning to emerge. For example the passive house whose energy requirement for space heating and cooling is almost zero; the smart grid that has revolutionized the management of energy, whilst enabling the connection of small-scale, renewable energy producers and electric vehicles to the grid; or the European super-grid which will enable zero carbon energy to be generated in the Sahara desert and stored in Norway.

This book explores the diverse approaches that are being adopted around the world to deliver zero carbon homes and the different societal systems and geographic circumstances in which they have developed. It postulates a roadmap for delivering zero carbon homes, together with a toolbox approach for policy and practice to suit particular national and local circumstances.

A series of case studies are presented that offer lessons for delivering zero carbon homes. These examples are also used to demonstrate how prototype systems can move into the mainstream. The book highlights some of the instruments and mechanisms that could be used to support this transformation and addresses the wider implications of introducing these innovative systems in terms of industry, lifestyle and urban form.

Selected Contents: 1. Introduction 2. Zero-carbon Homes – The Technological Response 3. Innovative Housing Programmes 4. Low / Zero Carbon Energy Systems 5. Low/Zero Carbon Neighbourhoods 6. Markets for Zero Carbon Homes 7. Transformation of the House-Building Industry 8. Transformation of the Energy Industry 9. Instruments for Change 10. A Spatial Dimension 11. Living with Zero Carbon 12. A Time for Change

2011: 234 x 156: 424pp
Hb: 978-1-84971-248-4: **£100.00**
Pb: 978-1-84971-249-1: **£29.99**
eBook: 978-0-203-15352-9

For more information, visit: www.routledge.com/9781849712491



FINANCING UK CARBON REDUCTION PROJECTS

(FB 31)

Robert Rabinowitz and **Jon d'Este-Hoare**, both at BRE, UK



This publication explores the funding of project-based carbon reduction projects in the UK by:

- surveying potential sources of supply and demand for such emission reductions
- examining the regulatory hurdles that need to be overcome to put a funding mechanism in place.

It recommends the creation of a comprehensive reporting framework for carbon reduction projects in the UK that can accommodate the variety of projects and carbon accounting and financial methodologies already in place for funding such projects. The ultimate goal of such a reporting

framework will be to create a new asset class, namely project-based carbon reductions in the UK, so that the investment capital required to fund such emission reductions and help the UK to meet its climate change targets can be deployed most effectively across the entire range of voluntary and regulated projects in the UK.

Selected Contents: 1. Background 2. What is a Carbon Reduction Project? 3. Quality Criteria for Carbon Reduction Projects 4. Challenges in Applying Quality Criteria to UK Projects 5. Demand for UK Projects 6. Supply of UK Projects 7. The Cost of Emission Reductions from UK Projects 8. Overcoming Regulatory Hurdles 9. Conclusions 10. References and Abbreviations Appendices: Draft Framework for Reporting on UK Project-Based Carbon Reductions. Gentoo Housing's Retrofit Reality Housing Refurbishment Scheme. Application of the Reporting Framework to Gentoo Housing's Retrofit Reality Housing Refurbishment Scheme

2011: 297 x 210: 28pp

Pb: 978-1-84806-168-2: **£30.00**

For more information, visit: www.routledge.com/9781848061682



NEW

CARBON-NEUTRAL ARCHITECTURAL DESIGN

Pablo M. La Roche, California State Polytechnic University, Pomona, USA

Filling an urgent need for a design reference in this emerging field, this full-color book describes how to reduce building greenhouse gas emissions through appropriate architectural design. Outlining a carbon-neutral architectural design process, the author emphasizes the control of energy flows through the building envelope and passive heating and cooling strategies. He also examines how to consider a building's location through climate analysis and solar geometry and how to achieve thermal comfort with minimum emissions. Drawing on the author's extensive experience in teaching and practice, this is a valuable resource for anyone who wants to reduce the carbon footprint of buildings.

Selected Contents: Buildings and Greenhouse Gas Emissions. Carbon-Neutral Architectural Design. Thermal Comfort. Climate and Architecture. Solar Geometry. Heat Exchange through the Building Envelope. Passive Cooling Systems. Passive Heating. Index.

2011: 235 x 156: 344pp

Hb: 978-1-4398-4512-7: **£63.99**

For more information, visit: www.routledge.com/9781439845127

THE MOVE TO LOW-CARBON DESIGN: ARE DESIGNERS TAKING THE NEEDS OF BUILDING USERS INTO ACCOUNT?

A Guide for Building Designers, Operators and Users (FB 21)

Mindy Hadi

2010: 297 x 210: 28pp

Pb: 978-1-84806-116-3: **£25.00**

For more information, visit: www.routledge.com/9781848061163



ENERGY EFFICIENCY IN NEW AND EXISTING BUILDINGS

Comparative Costs and CO2 savings (FB 26)

Fiona MacKenzie

This BRE Trust report considers the relative impact on UK CO2 savings targets of constructing new zero-carbon buildings compared to improving the energy efficiency of the existing stock, using existing data.

Selected Contents: 1. Background 2. Introduction 3. Assessing Cost Effectiveness 4. Domestic Buildings 5. Non-domestic Buildings

2010: 297 x 210: 32pp

Pb: 978-1-84806-137-8: **£30.00**

For more information, visit: www.routledge.com/9781848061378



SOLAR HOME DESIGN MANUAL FOR COOL CLIMATES

Shawna Henderson and **Don Roscoe**

This is a book that simply and clearly explains the principles of using solar energy to heat your home. Anyone building a new home or renovating an old one can incorporate one or several aspects of solar energy into their design. Taking you through the process of designing a solar home from the ground up, this manual is also a basic course in conservation and sustainable house design. If you live in a 'heating' climate, meaning you have space heating requirements for most of the year, then this is an invaluable resource. A house is the biggest single investment most of us will make in our lives – the way it is built and how it operates can reflect a long term investment in both the building and the planet.

Selected Contents: Introduction 1. Site Designing 2. House Design & Planning 3. Controlling Climate 4. Auxiliary Heating 5. Indoor Air Quality 6. Building Envelope 7. Overall Energy Reductions 8. Solar Add-Ons 9. Making it Happen. Case Studies. Appendices

2010: 208pp

Pb: 978-1-84407-969-8: **£29.99**

eBook: 978-1-84977-664-6

For more information, visit: www.routledge.com/9781844079698



INTEGRAL SUSTAINABLE DESIGN

Transformative Perspectives

Mark DeKay, University of Tennessee, USA

This book offers practical and theoretical tools for more effective sustainable design solutions and for communicating sustainable design ideas to today's diverse stakeholders.

It uses integral theory to make sense of the many competing ideas in this area and offers a powerful conceptual framework for sustainable designers through the four main perspectives of: behaviours; systems; experiences; cultures.

It also uses human developmental theory to reframe sustainable design across four levels of complexity present in society: the Traditional, Modern, Postmodern, and Integral waves. Profuse with illustrations and examples, the book offers many conceptual tools including:

- twelve principles of integral sustainable design
- sixteen prospects of sustainable design
- six perceptual shifts for ecological design thinking
- five levels of sustainable design aesthetics
- ten injunctions for designing connections to nature.

Selected Contents: Part 1: The Four Perspectives of Integral Sustainable Design: Touching all the Bases of the Sustainable Design World Part 2: Levels Of Complexity In Sustainable Design: The Four Contemporary Structures Part 3: Ecological Design Thinking The Six Perceptual Shifts Part 4: Designing Relationships to Nature Metaphors and Injunctions for Deep Connections

2011: 234 x 156: 528pp

Hb: 978-1-84971-312-2: **£90.00**

Pb: 978-1-84971-202-6: **£32.99**

eBook: 978-1-84977-536-6

For more information, visit: www.routledge.com/9781849712026



INTEGRATED SUSTAINABLE DESIGN OF BUILDINGS

Paul Appleby



Integrated Sustainable Design of Buildings aims to provide a guide to members of design and masterplanning teams on how to deliver sustainable development and buildings cost effectively, meeting current and emerging UK and international statutory and planning requirements. Using a series of case histories and examples from the author's ten years of providing sustainability advisory services the book sets out a clear and understandable strategy that deals with all aspects of sustainable design and construction and the implications for delivery, costs, saleability and long term operation. The extensive scope includes all aspects of environmental, social and economic sustainability, including

strategies to reduce carbon emissions and the impact of climate change.

Selected Contents: Part 1: Background Part 2: Sustainability and Masterplanning Part 3: Sustainability and Building Design Part 4: Sustainable Construction

2010: 246 x 189: 440pp
Hb: 978-1-84971-117-3: **£49.99**
eBook: 978-1-84977-533-5

For more information, visit: www.routledge.com/9781849711173

NEW

SUSTAINABLE BUILDINGS AND INFRASTRUCTURE

Paths to the Future

Annie Pearce, Virginia Tech, USA, Yong Han Ahn, East Carolina University, USA and HanmiGlobal Co, Ltd



Construction is one of the biggest industries in the world, providing necessary facilities for human prosperity ranging from the homes in which we live to the highways we drive, the power plants that provide energy for our daily activities, and the very infrastructure on which human society is built.

The construction sector, including the building sector, has among the largest potential of any industry to contribute to the reduction of greenhouse gas emissions. This ambitious and comprehensive textbook covers the concept of embedding sustainability across all construction activities. It

is aimed at students taking courses in Construction Management and the Built Environment. Written in a lively and engaging style the book sets out the practical requirements of making the transition to a sustainable construction industry by 2020. Case studies are included throughout making the book both a core reference and a practical guide.

Selected Contents: 1. Drivers of Sustainability in the Built Environment 2. History of Sustainability in the Built Environment 3. Sustainability Policies and Programs 4. Green Rating Systems 5. Project Delivery and Pre-design Sustainability Opportunities 6. Sustainable Design Opportunities and Best Practices 7. Sustainable Construction Opportunities and Best Practices 8. Post-occupancy Sustainability Opportunities and Best Practices 9. The Business Case for Sustainability 10. Trends for the Future of Sustainable Design and Construction **Case Studies** Air Force Weather Agency, Nebraska. Air Reserve Base Fire Station, Homestead (FL). Center One Building, Seoul. Freedom Park, Naples (FL). Gran Torre Costanera, Santiago. Hotel Intercontinental, Santiago. Olympic Venue, London. Masdar, UAE. One Island East, Hong Kong. The People's Place Library, Antigonish. Songdo IBD, Incheon. Sydney Water Headquarters. Torre Titanium La Portada, Santiago. United Nations Offices, Nairobi. Visionaire Hotel, New York

February 2012: 246 x 189: 512pp
Hb: 978-0-415-69091-1: **£80.00**
Pb: 978-0-415-69092-8: **£29.99**
eBook: 978-0-203-13084-1

For more information, visit: www.routledge.com/9780415690928



NEW

SUSTAINABLE RETROFITTING OF COMMERCIAL BUILDINGS

Warm Climates

Edited by **Richard Hyde**, University of Sydney, Australia, **Nathan Groenhout**, AECOM, **Francis Barram**, Ensight and **Ken Yeang**, Architect

Despite recent improvements in energy efficiency being made in new build it is important that the existing commercial building sector also take action to meet emission reduction targets. The objectives and challenges of such action will reduce the risk of the sector becoming obsolescent due to high energy use and poor environmental performance.

This book presents a theory-based, practice-support methodology to deal with environmental retrofitting opportunities for existing commercial buildings in warm climates using bioclimatic design as the basis. The book has four main sections focusing on the context of climate change effects, the technological and behavioural contexts of the existing building sector in which policies, modeling, monitoring and trend analysis in respect to energy and environmental performance are covered. Next, the retrofitting brief as a 'design guide' for existing buildings highlighting the significance of architectural design and engineering systems for energy performance is presented. The final part gives ten case studies showing the effectiveness of strategies suggested for effective environmental performance. The book provides compelling information for all involved in the design and engineering of retrofitting projects.

July 2012: 234 x 156: 320pp
Hb: 978-1-84971-291-0: **£90.00**

For more information, visit: www.routledge.com/9781849712910

NEW

SUSTAINABLE RETROFIT AND FACILITIES MANAGEMENT

Paul Appleby

Governments across the globe are setting targets for reducing their carbon emissions. For example, the UK Government has committed to an eighty per cent reduction by 2050, when twenty-eight million buildings that currently exist will still be standing; this represents a challenge to improve the energy efficiency of more than one building per minute between now and 2050. This is a problem that needs tackling worldwide and is a challenge both to refurbishment sector of the global construction industry and to those who own and operate existing buildings.

Sustainable Retrofit and Facilities Management provides comprehensive guidance to those involved in the refurbishment and management of existing buildings on minimising carbon emissions, water consumption and waste to landfill, along with enhancing the long term sustainability of a building. Practical guidance is provided on measures that can be used to improve the efficiency and sustainability of existing buildings, through both good management and refurbishment. Also explored is the relationship between the refurbishment of existing buildings, facility management and the wider community infrastructure. The book looks at management tools such as post occupancy evaluation, building health checks, energy management software, green building management toolkits and green leases. Illustrated throughout with case studies and examples of best practice, this is a must-have handbook for engineers, architects, developers, contractors and facility managers.

October 2012: 246 x 189: 256pp
Hb: 978-0-415-53109-2: **£49.99**

For more information, visit: www.routledge.com/9780415531092

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www.routledge.com/buildingconstruction

CONSTRUCTION IN THE LANDSCAPE

A Handbook for Civil Engineering to Conserve Global Land Resources

T. G. Carpenter

Construction in the Landscape describes the impact of construction on the land and landscape where it takes place. Geographical coverage is necessarily global to reflect the great variation both in people's economic and social needs and in the shortage or abundance of natural resources.

Part one introduces both land resources, whether used for agriculture, human settlement or mineral extraction or conserved as scenery, wildlife habitat or for the undefined needs of future generations; and construction, its products, skills, processes and impacts on land resources. Part two describes specific forms of civil engineering – from landform adaptation, through dams and river control works, coastal construction and transport infrastructure to particular types of structure such as bridges, towers and power stations, or the layout of complete settlements. Part three deals with regional planning of construction and land use in different geographical circumstances – from fine scenery, through rural countryside to city and suburban development – and to the sort of land arrangements that may be sustainable for an increased but hopefully more civilized human population a century hence.

Selected Contents: Part 1: Land Resources Part 2: Man-Made Forms and Structures
Part 3: Planning Construction in Various Landscapes

2011: 246 x 189: 544pp
Hb: 978-1-84407-923-0: **£85.00**
eBook: 978-1-84977-537-3

For more information, visit: www.routledge.com/9781844079230

A GUIDE TO THE SIMPLIFIED BUILDING ENERGY MODEL (SBEM)

What it Does and How it Works (FB 24)

Roger Hitchin

This BRE Trust Report describes how the Simplified Building Energy Model works, and explains the processes and assumptions within it. The report has been written specifically for professionals who need to see behind the user interface, without going into mathematical detail.

2010: 297 x 210: 32pp
Pb: 978-1-84806-129-3: **£25.00**

For more information, visit: www.routledge.com/9781848061293



BUILDING-MOUNTED MICRO-WIND TURBINES ON HIGH-RISE AND COMMERCIAL BUILDINGS

(FB 22)

Paul Blackmore

This report provides guidance on the most effective height and location for wind turbine installations on the roofs of tall buildings.

2010: 297 x 210: 46pp
Pb: 978-1-84806-128-6: **£25.00**

For more information, visit: www.routledge.com/9781848061286



GREEN CONSTRUCTION - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
A Handbook of Sustainable Building Design and Engineering	Edited by Dejan Mumovic and Mat Santamouris	2009	978-1-84407-596-6	Hardback	£75.00
			978-1-84977-027-9	e-Book	
Advances in Building Energy Research 3	Edited by Mat Santamouris	2009	978-1-84407-517-1	Hardback	£185.00
			978-1-84977-038-5	e-Book	
Building for a Changing Climate	Peter F. Smith	2009	978-1-84407-735-9	Hardback	£49.99
			978-1-84977-439-0	e-Book	
Design Management for Sustainability	Stephen Emmitt	2009	978-1-84407-895-0	Paperback	£49.99
Sustainable Solar: Housing Volume 2	Edited by S. Robert Hastings and Maria Wall	2009	978-1-84407-326-9	Hardback	£75.00
			978-1-84977-280-8	e-Book	
Sustainable Solar Housing (2 Volume Set)	Edited by S. Robert Hastings and Maria Wall	2009	978-1-84407-801-1	Paperback	£60.00
The Handbook of Sustainable Refurbishment: Non-Domestic Buildings	Baker Nick	2009	978-1-84407-486-0	Hardback	£49.99
			978-1-84977-022-4	e-Book	
The Indoor Environment Handbook	Philomena Bluyssen	2009	978-1-84407-787-8	Hardback	£49.99
			978-1-84977-461-1	e-Book	
The Whole Building Handbook	Varis Bokalders and Maria Block	2009	978-1-84407-833-2	Hardback	£120.00
			978-1-84407-523-2	Paperback	£49.99
			978-1-84977-483-3	e-Book	
Sustainability in the Built Environment	Carol Atkinson	2009	978-1-84806-084-5	Paperback	£25.00
Sustainable Developments in Sweden	Lynne Ceeney	2009	978-1-84806-114-9	Paperback	£25.00
Sustainable Masonry Construction	Mark Key	2009	978-1-84806-107-1	Paperback	£25.00
Energy: Management, Supply and Conservation	Clive Beggs	2009	978-0-7506-8670-9	Paperback	£35.00
			978-0-08-094288-9	e-Book	
Smart Home Systems and the Code for Sustainable Homes	Alison Nicholl	2009	978-1-84806-112-5	Paperback	£25.00
Advances in Building Energy Research 2	Edited by Mat Santamouris	2008	978-1-84407-389-4	Hardback	£185.00
			978-1-84977-037-8	e-Book	
Putting a Price on Sustainable Schools	Anna Surgenor	2008	978-1-84806-019-7	Paperback	£25.00
Siting Micro-Wind Turbines on House Roofs	Paul Blackmore	2008	978-1-84806-022-7	Paperback	£25.00
Sustainable Solar: Housing Volume 1	Edited by S. Robert Hastings and Maria Wall	2006	978-1-84407-799-1	Paperback	£39.99

2ND EDITION

CONSTRUCTION ECONOMICS

A New Approach

Danny Myers

Construction Economics provides students with the principles and concepts of economic theory and relates this to the construction industry, and the new approach views economics as central to government initiatives in sustainable construction.

This updated second edition has been expanded to cover the debates on the private finance initiative, value management, off-site manufacture, the credit crunch, the 2008 OFT investigation into contractors colluding, and sustainable construction.

Selected Contents: 1. An Introduction to the Basic Concepts **Part A: Effective Use of Resources** 2. Economic Systems for Resource Allocation 3. The Market Mechanism 4. The Theory of Demand 5. The Theory of Supply 6. Clients and Contractors 7. Costs of the Construction Firm 8. Types of Market Structure in the Construction Industry **Part B: Protection and Enhancement of the Environment** 9. Markets for Green Buildings and Infrastructure 10. Market Failure and Government Intervention 11. Environmental Economics **Part C: Economic Growth that Meets the Needs of Everyone** 12. Managing the Macroeconomy 13. The Economy and Construction: Measurement and Manipulation 14. The Business Case: Inflation and Expectations 15. Sustainable Construction. Glossary

2008: 246 x 174: 336pp
Hb: 978-0-415-46228-0: **£100.00**
Pb: 978-0-415-46229-7: **£31.99**

For more information, visit: www.routledge.com/9780415462297



NEW

URBAN AND ENVIRONMENTAL ECONOMICS

An Introduction

Graham Squires, University of the West of England, UK

Illustrated throughout, and with lists of further reading in every chapter, this book is ideal for students at all levels who need to get to grips with the economics of the environment within a built environment context. It explains the theory needed to understand crucial tools and economic techniques such as cost-benefit analysis, discounting, resource valuation, and macro-economic tools. Particularly useful to those studying planning, land economy, environmental management, or housing development.

Selected Contents: 1. What is Urban and Environmental Economics? 2. Perspectives in Urban and Environmental Economics 3. The Environment According to Economists 4. The Basic Economic

Problem 5. Limits to Growth 6. Market Forces: Demand and Supply 7. Failure of the Market and Externalities 8. Cost-Benefit Analysis and Discounting 9. Macro-Economic Considerations 10. Macro-economic Tools, Measures and Policy 11. Key Themes in Urban and Environmental Economics 12. Contemporary Challenges and Policy

July 2012: 234 x 156: 280pp
Hb: 978-0-415-61990-5: **£100.00**
Pb: 978-0-415-61991-2: **£29.99**
eBook: 978-0-203-82599-0

For more information, visit: www.routledge.com/9780415619912



NEW

WHOLE LIFE COSTING

A New Approach

Peter Caplehorn, Scott Brownrigg, UK

As sustainability has emerged and grown in importance, so has the need for a whole life time costing approach, partly driven by governmental insistence. This book sets out the practical issues involved in the selection of materials, their performance, and all other issues that need to be taken into account. The emphasis, unlike in other publications, is not to formulaise or to package the issues but to leave the reader with a clear understanding and a sensible practical way of arriving at conclusions in the future.

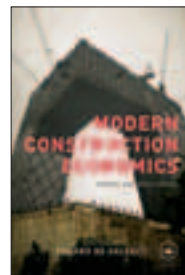
Selected Contents: **Part 1: Introduction** 1. Whole Life Costing a Practical Approach 2. Why is it Important? 3. What Factors Affect It? 4. Current Methods Thinking and Systems **Part 2: Relevance to Today** 5. The Sustainability Question and the Context of Whole Life Costing 6. What Needs to be Taken Account? 7. How the Following Explanations Data Have Been Approached 8. Who Needs this Information? 9. How to Use it Effectively **Part 3: The Building Process** 10. Contracts and Their Requirements 11. PFI and Procurement 12. Clients Contractors and Consultants 13. Building Elements **Part 4: Building Elements** 14. Fabric 15. Structure 16. Materials 17. Finishes 18. Occupation **Part 5: The Future** References

June 2012: 246 x 174: 152pp
Hb: 978-0-415-43422-5: **£100.00**
Pb: 978-0-415-43423-2: **£34.99**
eBook: 978-0-203-88896-4

For more information, visit: www.routledge.com/9780415434232

**MODERN CONSTRUCTION ECONOMICS**

Theory and Application

Edited by **Gerard de Valence**

Modern construction economics has a wider focus than was previously the case, with stronger links to mainstream economics reflecting increasing interest in a range of theoretical issues. This book brings together the essential reviews of this trend and pushes towards the development of a comprehensive theoretical framework for construction economics.

Selected Contents: 1. Theory and Construction Economics 2. Developing Construction Economics as Industry Economics 3. Collusion and Corruption in the Construction Sector 4. Competing in Construction Auctions; A Theoretical Perspective 5. On Theory of Production in Economics and Production Management 6. Competition and Barriers to Entry in the Construction Industry 7. Comparing Construction Costs

Between Countries 8. Innovation in Construction: A Case Study of the Australian Context 9. Theory Testing in Building Economics Research: An Experimental Approach 10. Market Types and Construction Markets 11. The Methodology of Building Economics Research

2010: 234 x 156: 232pp
Hb: 978-0-415-39706-3: **£75.00**
eBook: 978-0-203-92689-5

For more information, visit: www.routledge.com/9780415397063

CONSTRUCTION ECONOMICS - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Economics for the Modern Built Environment	Edited by Les Ruddock	2008	978-0-415-45424-7	Hardback	£100.00
			978-0-415-45425-4	Paperback	£40.00
			978-0-203-93857-7	e-Book	



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9TH EDITION

UNDERSTANDING JCT STANDARD BUILDING CONTRACTS

David Chappell, David Chappell Consultancy Ltd., UK



This ninth edition of David Chappell's bestselling guide has been revised to take into account changes made in 2011 to payment provisions, and elsewhere. This remains the most concise guide available to the most commonly used JCT building contracts: Standard Building Contract with quantities, 2011 (SBC11), Intermediate Building Contract 2011 (IC11), Intermediate Building Contract with contractor's design 2011 (ICD11), Minor Works Building Contract 2011 (MW11), Minor Works Building Contract with contractor's design 2011 (MWD11) and Design and Build Contract 2011 (DB11).

Chappell avoids legal jargon but writes with authority and precision. Architects, quantity surveyors, contractors and students of these professions will find this a practical and affordable reference tool arranged by topic.

April 2012: 234 x 156: 160pp
Pb: 978-0-415-50890-2: **£24.99**

For more information, visit: www.routledge.com/9780415508902



2ND EDITION

CONSTRUCTION CONTRACTS

Questions and Answers

David Chappell, David Chappell Consultancy Ltd., UK



Construction law can be a minefield. Professionals need answers which are pithy and straightforward, as well as legally rigorous. The two hundred questions in the book are real questions, picked from the thousands of telephone enquiries David Chappell has received as a Specialist Adviser to the Royal Institute of British Architects.

The material is considerably updated from the first edition – weeded, extended and almost doubled in coverage. The questions range in content from extensions of time, liquidated damages and loss and/or expense to issues of warranties, bonds, novation, practical completion, defects, valuation, certificates and payment, architects' instructions,

adjudication and fees. Brief footnotes and a table of cases are included for those who wish to investigate further.

This will be an invaluable reference for architects, project managers, contractors, QSs, employers and others involved in construction.

Selected Contents: 1. Tendering 2. Pre-Contract Issues 3. Possession of the Site 4. General Contractual Matters 5. Warranties, Bonds and Novation 6. Contractor's Programme 7. Contract Administration 8. Architects 9. Fees 10. Design 11. Architect's Instructions 12. Inspection 13. Defects During Progress 14. Defects After Practical Completion 15. Valuation and Payment 16. Certificates 17. Sub-Contracts 18. Extensions of Time 19. Liquidated Damages 20. Loss and/or Expense 21. Sectional Completion 22. Practical Completion and Partial Possession 23. Termination 24. Disputes

2010: 216 x 138: 344pp
Pb: 978-0-415-56650-6: **£34.99**
eBook: 978-0-203-86146-2

For more information, visit: www.routledge.com/9780415566506

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UNDERSTANDING THE NEC3 ECC CONTRACT

A Practical Handbook

Kelvin Hughes



Understanding the NEC3 ECC Contract uses plain English to lead the reader through the document's key features, including the use of early warnings, compensation events, preparing and assessing tenders, and termination provisions. Written for construction professionals, by a practicing international construction contract consultant, this handbook is the most straightforward, balanced and practical guide available.

Selected Contents: Preface. Introduction 1. Early Warnings 2. Design 3. Time 4. Testing & Defects 5. Payment 6. Compensation Events 7. Title 8. Insurance 9. Termination 10. Disputes 11. Tenders

July 2012: 234 x 156: 232pp
Pb: 978-0-415-61496-2: **£29.99**
eBook: 978-0-203-82931-8

For more information, visit: www.routledge.com/9780415614962



BESTSELLER

4TH EDITION

CONSTRUCTION CONTRACTS

Law and Management

Will Hughes and John Murdoch

2007: 234 x 156: 432pp
Hb: 978-0-415-39368-3: **£100.00**
Pb: 978-0-415-39369-0: **£29.99**
eBook: 978-0-203-96574-0

For more information, visit: www.routledge.com/9780415393690



6TH EDITION

GALBRAITH'S BUILDING AND LAND MANAGEMENT LAW FOR STUDENTS

Anne Galbraith, Michael Stockdale, Steve Wilson, Rebecca Mitchell, Russell Hewitson, Simon Spurgeon, Mick Woodley and Alan Davenport

Ideal for first year undergraduate students taking law modules on construction, surveying, planning and engineering courses, is an excellent overview of the key legal issues in the construction industry.

Clearly written and with wide ranging coverage of key legal principles by construction lecturers and professionals, this sixth edition has been fully updated and covers the latest JCT Standard Form Building Contract requirements and key EU directives, including Corporate Manslaughter, Employment Law, Tenant Planning Law regulations and Health and Safety acts.

2010: 229 x 152: 440pp
Pb: 978-0-08-096692-2: **£29.99**
eBook: 978-0-08-096693-9

For more information, visit: www.routledge.com/9780080966922

CONSTRUCTION LAW - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
JCT 2005: Clause by Clause	Phil Griffiths	2009	978-1-85617-518-0	Paperback	£25.99
			978-0-08-094958-1	e-Book	
The JCT 05 Standard Building Contract	Issaka Ndekugri and Michael Rycroft	2009	978-1-85617-629-3	Paperback	£29.99
			978-0-08-095095-2	e-Book	

NEW

MATERIALS SCIENCE IN CONSTRUCTION: AN INTRODUCTION

Ash Ahmed and John Sturges both at Leeds Metropolitan University, UK

Materials Science in Construction explains the science behind the properties and behavior of construction's most fundamental materials (metals, cement and concrete, polymers, timber, bricks and blocks, glass and plaster).

In particular, the critical factors affecting in-situ materials are examined, such as deterioration and the behaviour and durability of materials under performance.

An accessible, easy-to-follow approach makes this book ideal for all diploma and undergraduate students on construction-related courses taking a module in construction materials.

Selected Contents: 1. Introduction to Materials 2. Atomic Structure / Arrangement 3. Material / Mechanical Properties / Definitions 4. Dislocation, Imperfections & Strengthening Mechanisms 5. Microstructure / Phase Transformation 6. Thermal Properties of Materials 7. Ferrous Metals 8. Non-Ferrous Metals 9. Ceramics & Glasses 10. Polymer Structures 11. Characteristics, Applications And Processing Of Polymers 12. Timber 13. Concrete, Cement and Mortar 14. Autoclaved Aerated Concrete 15. Composite Materials 16. Corrosion & Degradation Of Materials 17. Failure 18. Effects of Fire 19. Environmental Impact Of Materials 20. Soils 21. Structures

October 2012: 246 x 189: 416pp
Pb: 978-1-85617-688-0: **£29.99**
eBook: 978-0-08-095850-7



For more information, visit: www.routledge.com/9781856176880

4TH EDITION

MATERIALS FOR ARCHITECTS AND BUILDERS

Arthur Lyons

2010: 246 x 189: 440pp
Pb: 978-1-85617-519-7: **£33.99**
eBook: 978-0-08-094959-8



For more information, visit: www.routledge.com/9781856175197

ENVIRONMENTAL IMPACT OF MATERIALS: FLOOR FINISHES

Andrew Dutfield, Jo Mundy and Jane Anderson, all at BRE, UK

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12. Conclusion 13. Green Guide Ratings For Floor Finishes

2011: 297 x 210: 56pp
Pb: 978-1-84806-195-8: **£35.00**

For more information, visit: www.routledge.com/9781848061958

ENVIRONMENTAL IMPACT OF MATERIALS: INSULATION

Jane Anderson and Kim Allbury, both at BRE, UK

Series: Environmental Impact of Materials

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2011: 297 x 210: 30pp
Pb: 978-1-84806-196-5: **£22.50**

For more information, visit: www.routledge.com/9781848061965

ENVIRONMENTAL IMPACT OF MATERIALS: VERTICAL CLADDING

Daniel Doran and Jane Anderson, both at BRE, UK

Series: Environmental Impact of Materials

Review the environmental issues and performances relevant to vertical cladding in the Green Guide to Specification with this report and reduce the environmental impact of your buildings.

Selected Contents: 1. Introduction to Life Cycle Assessment, Environmental Profiles and The Green Guide to Specification 2. How the Environmental Profiles Methodology Has Been Applied in Relation to Cladding 3. Key Impacts for Cladding and Opportunities for Reducing Environmental Impact 4. Progress with Reducing Environmental Impacts 5. Where More Data Are Required 6. Conclusion. Appendix: Defining Cladding Terms Used in The Green Guide to Specification. Glossary.

2011: 297 x 210: 24pp
Pb: 978-1-84806-194-1: **£22.50**

For more information, visit: www.routledge.com/9781848061941

NEW

NATURAL STONE IN THE BUILT ENVIRONMENT

Resources, Use and Conservation

Bernard Smith, Queen's University Belfast, Ireland, **Akos Torok**, Technical University of Budapest, Hungary, **Richard Prikryl**, Charles University, Czech Republic and **Jirina Prikrylova**, Academy of Fine Arts, Czech Republic

Fundamental and interdisciplinary textbook on natural stone properties, occurrence, exploration, use, decay and conservation. Intended as a primary information source for third level students and professionals using natural stone in the built environment. Aimed at an audience of geologists, geographers, civil engineers, architects, conservators, restorers, sculptors, historians of art, technologists of artwork conservation.

Selected Contents: 1. Introduction 2. Geological Background of Natural Stone 3. Exploration for Natural Stone Deposits 4. Quarrying and Stone Processing 5. Use of Natural Stone 6. Stone Decay 7. Visual Assessment and Documentation of Stone Types and State of Decay 8. Techniques of Stone Monuments and Structures 9. Laboratory Testing of Natural Stone 10. Durability Assessment 11. Determination of Source Areas 12. Cleaning and Conservation. References. Appendices. Glossary

January 2013: 246 x 174: 300pp
Hb: 978-0-415-54849-6: **£63.99**

For more information, visit: www.routledge.com/9780415548496



MECHANICS OF FIBER AND TEXTILE REINFORCED CEMENT COMPOSITES

Barzin Mobasher, Arizona State University, USA



Addressing recent trends and future directions, this book presents new opportunities for developing innovative and cost-effective materials and techniques in cement and concrete composites manufacturing. By understanding, predicting, and controlling microstructural changes, mechanical and environmental stresses can be modeled during the life cycle of products. The text delineates methods that optimize structural performance while considering environmental sustainability. It presents information on how to achieve efficient structural systems with innovative lightweight materials designed using fundamental aspects of composite material mechanics.

2011: 254 x 178: 473pp
Hb: 978-1-4398-0660-9: £82.00

For more information, visit: www.routledge.com/9781439806609

ALKALI-AGGREGATE REACTION AND STRUCTURAL DAMAGE TO CONCRETE

Engineering Assessment, Repair and Management

Geoffrey E. Blight, University of Witwatersrand, South Africa and
Mark G Alexander, University of Cape Town, South Africa

The book discusses methods that can be used for in situ non-destructive testing to assess the effects of AAR, and in-service measurements and load-testing to assess the present and future safety of reinforced concrete structures. Methods of repair and rehabilitation and their long-term success are also treated, as well as methods of halting or slowing the progress of AAR. At the same time, the fundamentals of AAR are explained in terms intelligible to the civil and structural engineer who is primarily trained in structural mechanics and design, but who also needs a basic understanding of the AAR process and its effects on concrete.

2011: 246 x 174: 250pp
Hb: 978-0-415-61353-8: £89.00
eBook: 978-0-203-09321-4

For more information, visit: www.routledge.com/9780415613538



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8TH EDITION

BUILDING CONSTRUCTION HANDBOOK

Roy Chudley and Roger Greeno



Building Construction Handbook contains everything you need to know about the construction process. Up-to-date examples of everyday practices and processes, accompanied by detailed drawings to illustrate the construction building elements, make this text a core reference for both students and professionals.

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Building Construction Handbook is an essential, easy-to-use resource for undergraduate and vocational students on a wide range of courses including NVQ and BTEC National, through Higher National Certificate and Diploma, to Foundation and three-year degree level. It is also a handy reference for building designers, contractors and others working in the construction industry.

Selected Contents: General. Site Works. Builders Plant. Substructure. Superstructure. Internal Construction and Finishes. Domestic Services. Index

2010: 828pp
Pb: 978-1-85617-805-1: £24.99

For more information, visit: www.routledge.com/9781856178051



NEW

EARTH BUILDING

History, Science and Conservation (EP 101)

Paul Jaquin, Structural Engineer and Charles Augarde, Durham University, UK

Explore strategies for the analysis and conservation of earth buildings, including adobe, cob and rammed earth. Richly illustrated with photographs and diagrams, this book provides an invaluable tool for the conservator, architect and engineer.

Selected Contents: 1. Types of Earthen Construction 2. History of Earth Building 3. Fundamental Behaviour of Earthen Construction Materials 4. Damage to Earth Buildings 5. Conservation Strategies 6. References and Bibliography

January 2012: 246 x 189: 120pp
Pb: 978-1-84806-192-7: £35.00

For more information, visit: www.routledge.com/9781848061927

BESTSELLER

5TH EDITION

UNDERSTANDING THE BUILDING REGULATIONS

Simon Polley, BRCS (Building Control) Ltd., Chelmsford, UK



Do you need a concise, jargon-free and compact guide to the UK building regulations?

Simon Polley boils down the regulations to their basic features, explaining the core principles behind them. Easy to read and light enough to carry around with you, this is the ideal introduction to a vital part of your remit as a building control officer, architect or surveyor.

Updated with the extensive 2010 changes, and illustrated with cartoons.

2011: 234 x 156: 312pp
Pb: 978-0-415-60863-3: £20.99
eBook: 978-0-203-83121-2

For more information, visit: www.routledge.com/9780415608633



NEW EDITION OF BESTSELLER

BUILDING REGULATIONS IN BRIEF

Ray Tricker, Herne European Consultancy Ltd, UK and Sam Alford



The most popular and trusted guide to the building regulations, *Building Regulations in Brief* is updated regularly to reflect constant changes. Now in its seventh edition, it has sold over 28,000 copies since its first publication in 2003.

This new edition includes the latest on all the significant amendments to Building Regulations, Planning Permission and the Approved Documents that occurred in October 2010 and includes changes to Parts F and L, as well as Approved Documents A, C, and J. There are also changes reflecting the consolidation of the building regulations included.

The no-nonsense approach has made it a firm favourite with all involved in the building industry including designers,

building surveyors and inspectors, students and architects. A ready reference giving practical information, it enables compliance in the simplest and most cost-effective manner possible. *Building Regulations in Brief* cuts through the confusion to explain the meaning of the regulations, their history, current status, requirements, associated documentation and how local authorities view their importance, as well as emphasizing the benefits and requirements of each regulation. It's an essential purchase for anyone needing to comply with the building regulations.

Selected Contents: 1. The Building Act 1984 2. The Building Regulations 2010 3. The Requirements of the Building Regulations 4. Planning Permission 5. Requirements for Planning Permission and Building Regulations Approval 6. Meeting the Requirements of the Building Regulations

February 2012: 234 x 156: 1056pp

Pb: 978-0-415-80969-6: **£28.99**

eBook: 978-0-203-13485-6



For more information, visit: www.routledge.com/9780415809696

2ND EDITION

UNDERSTANDING THE CDM 2007 REGULATIONS

Owen V. Griffiths and Alun V. Griffiths both at Total CDM Solutions, UK



Almost 3000 lives have been lost in the UK construction industry over the last twenty-five years, in addition to those seriously injured or made ill. The need to reduce this rate has required tight controls to be introduced throughout the planning and management of construction projects in the UK. The Construction (Design and Management) Regulations 2007 outline the responsibilities and liabilities for the various professionals and agents involved.

Straightforward and practical, *Understanding the CDM 2007 Regulations* demonstrates the rationale behind the regs, covers the duties of the five core duty holders (client, CDM coordinator, designer, principal contractor and contractor),

explains the importance of the hazard management process on every project and also sets out the consequences of failing to successfully plan, design and manage for safety.

Any client, architect, engineer, CDM co-ordinator, project manager, construction professional, or student will find this a simple but thorough and dependable guide and should value the management toolkit and the numerous practical examples of best practice and guidance on how to use the Approved Code of Practice appropriately. This book shows how to unleash the potential of the regulations and add real value to the industry.

Selected Contents: Introduction 1. Overview of the CDM Regulations 2. The client & CDM 3. The Role of the CDM Co-ordinator 4. Designers & CDM 5. Principal Contractor 6. Contractors 7. Duties Relating to on Site Health & Safety 8. CDM Management Toolkit

2010: 234 x 156: 360pp

Pb: 978-0-415-55653-8: **£29.99**

eBook: 978-0-203-86930-7



For more information, visit: www.routledge.com/9780415556538

INTEGRATING BREEAM THROUGHOUT THE DESIGN PROCESS

A Guide to Achieving Higher BREEAM and Code for Sustainable Homes Ratings (FB 28)

Virginia Cinquemani and Josephine Prior both at BRE Global, UK

2011: 297 x 210: 58pp

Pb: 978-1-84806-149-1: **£35.00**



For more information, visit: www.routledge.com/9781848061491

BUILDING TECHNIQUES - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Roofs and Roofing	H.W. Harrison	2009	978-1-84806-092-0	Paperback	£47.50
Sprinkler Systems Explained	Global Bre	2009	978-1-84806-086-9	Paperback	£40.00
Earth Masonry	Tom Morton	2008	978-1-86081-978-0	Paperback	£35.00
Hemp Lime Construction	Rachel Bevan	2008	978-1-84806-033-3	Paperback	£30.00

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6TH EDITION

BUILDING SERVICES HANDBOOK

Roger Greeno and Fred Hall



Building Services Handbook summarizes the application of all common elements of building services practice, technique and procedure, to provide an essential information resource for students as well as practitioners working in building services, building management and the facilities administration and maintenance sectors of the construction industry.

This new edition contains extended information on water system components, control systems for hot water and heating, ventilation and air conditioning, drainage, gas appliance flues and further examples of design calculations. It has been revised and expanded to take into account

recent amendments to the Building Regulations Approved Documents and guidance from British and European Standards.

This is *the* comprehensive reference for all construction and building services students. *Building Services Handbook* is ideal for a wide range of courses including NVQ and BTEC National through to Higher National Certificate and Diploma to Foundation and three-year Degree level. The clear illustrations and complementary references to industry standards combine essential guidance with a resource base for further reading and development of specific topics.

Selected Contents: 1. Cold Water Supply Systems 2. Hot Water Supply Systems 3. Heating Systems 4. Fuel Characteristics and Storage 5. Ventilation Systems 6. Air Conditioning 7. Drainage Systems, Sewage Treatment and Refuse Disposal 8. Sanitary Fittings and Appliances: Discharge and Waste Systems 9. Gas Installation, Components and Controls 10. Electrical Supply and Installations 11. Mechanical Conveyors: Lifts, Escalators and Travelators 12. Fire Prevention and Control Services 13. Security Installations and Emergency Lighting 14. Accommodation for Building Services 15. Alternative and Renewable Energy

2011: 720pp

Pb: 978-0-08-096982-4: £24.99

eBook: 978-0-08-096983-1

For more information, visit: www.routledge.com/9780080969824

NEW

BUILDING SERVICES DESIGN FOR ENERGY EFFICIENT BUILDINGS

Hussam Jouhara, Maria Kolokotroni and Savvas Tassou all at Brunel University, UK and Paul Tymkow, Hoare Lea Consulting Engineers, UK

The role and influence of building services engineers is undergoing rapid change and is pivotal to achieving low-carbon buildings. However, textbooks in the field have remained fairly traditional with a detailed focus on the technicalities of HVAC systems, often with little wider context. This book addresses that need by embracing a contemporary understanding of sustainability imperatives, together with a practical approach to the key issues impacting upon energy efficiency, in a concise manner.

Heating, ventilation and air-conditioning (HVAC) and electric power distribution are examined in detail. In addition, the following issues are addressed in turn:

- background issues for sustainability and the design process
- practical measures for energy-efficient design
- how to undertake load assessments
- system comparison and selection
- the key aspects of design integration with other disciplines
- post-occupancy evaluation of completed building services.

In order to deliver sustainable buildings, a new perspective is needed amongst building and services engineering practitioners, from the outset of the conceptual design stage and throughout the whole design process. In this book, students and practitioners alike will find the ideal introduction and guide to this new approach.

November 2012: 234 x 156: 384pp

Hb: 978-0-415-59636-7: £100.00

Pb: 978-0-415-59637-4: £29.99

eBook: 978-0-203-84073-3

For more information, visit: www.routledge.com/9780415596374

NEW

INTELLIGENT BUILDINGS

An Introduction

Derek Clements-Croome, University of Reading, UK

Intelligent buildings should be sustainable, healthy, technologically aware, meet the needs of occupants and business, and should be flexible and adaptable to deal with change. This means the processes of planning, design, construction, commissioning and facilities management including post-occupancy evaluation are all important. Buildings comprise many systems devised by many people and yet the relationship between buildings and people can only work satisfactorily if there is an integrated team with a holistic vision. This book introduces the concept of intelligent buildings that meet this criteria.

November 2012: 234 x 156: 224pp

Hb: 978-0-415-53113-9: £75.00

For more information, visit: www.routledge.com/9780415531139

NEW

GUIDE TO NATURAL VENTILATION IN HIGH RISE OFFICE BUILDINGS

Edited by Ruba Salib and Antony Wood, CTBUH, Illinois Institute of Technology, USA

This book is based on detailed research by the *Council for Tall Buildings in the Urban Habitat* (CTBUH) on existing natural ventilation systems in skyscrapers throughout the world. With around sixty percent of a tall office building's energy going on heating and air-conditioning the potential for major savings is obvious, but to maximise those benefits in terms of reducing both capital and running costs requires careful planning and preparation. The handbook sets out recommendations for every phase of planning, construction and operation of a building, including local climatic factors that need to be taken into account, how to plan for seasonal variations in weather, and the risks in adopting different implementation strategies. All of the recommendations are based on analysis of the research findings from the case studies.

October 2012: 279 x 216: 176pp

Pb: 978-0-415-50958-9: £39.99

For more information, visit: www.routledge.com/9780415509589

TEXTBOOK

A GUIDE TO ENERGY MANAGEMENT IN BUILDINGS

Douglas Harris, Heriot-Watt University, UK



Inefficient energy use in buildings is both increasingly expensive and unsustainable. Indeed, the reduction of the energy consumption of existing buildings is as important as the design of new low-energy buildings.

This comprehensive guide clearly and concisely covers the various issues from a theoretical standpoint and provides practical, worked examples where appropriate, along with examples of how the calculations are carried out.

It provides a template for instigating the energy management process within an organization, as well as guidance on management issues such as employee

motivation, and gives practical details on how to carry it through. This book should appeal to building managers and facilities managers and also to students of energy management modules in FE and HE courses.

Selected Contents: 1. Background 2. Aspects of Building Energy Use 3. Energy Audits 4. Techniques for Reducing Energy Consumption 5. Instrumentation and Measurements 6. Organisation and Implementation 7. Legislation and Grants 8. Controls and Building Management Systems 9. Case studies

2011: 234 x 156: 176pp

Hb: 978-0-415-56648-3: £100.00

Pb: 978-0-415-56649-0: £19.99

eBook: 978-0-203-86147-9

For more information, visit: www.routledge.com/9780415566490

TEXTBOOK

BUILDING PERFORMANCE SIMULATION FOR DESIGN AND OPERATION

Edited by **Jan L.M. Hensen**, Technical University of Eindhoven, the Netherlands and **Roberto Lamberts**, Federal University of Santa Catarina, Brazil



This book provides a unique and comprehensive overview of building performance simulation for the complete building life-cycle from conception to demolition. It is primarily intended for advanced students in building services engineering, and in architectural, environmental or mechanical engineering; and will be useful for building and systems designers and operators.

Selected Contents: 1. The Role of Simulation in Performance Based Building 2. Weather Data for Building Performance Simulation 3. People in Building Performance Simulation 4. Thermal Load and Energy Performance Prediction 5. Ventilation Performance Prediction 6. Indoor Thermal Quality Performance Prediction 7. Room Acoustics Performance Prediction 8. Daylight Performance Predictions 9. Moisture Phenomena in Whole Building Performance Prediction 10. HVAC Systems Performance Prediction 11. Micro-cogeneration System Performance Prediction 12. Building Simulation for Practical Operational Optimization 13. Building Simulation in Building Automation Systems 14. Integrated Resource Flow Modelling of the Urban Built Environment 15. Building Simulation for Policy Support 16. A View on Future Building System Modelling and Simulation

2011: 246 x 174: 536pp
Hb: 978-0-415-47414-6: **£65.00**
eBook: 978-0-203-89161-2

For more information, visit: www.routledge.com/9780415474146

**VENTILATION FOR HEALTHY BUILDINGS: REDUCING THE IMPACT OF URBAN AIR POLLUTION**

Vina Kukadia, BRE, UK and Enviobods Ltd, UK



Practical guidance on developing effective ventilation strategies for reducing ingress of external pollution into buildings, while maintaining adequate ventilation. It takes account of air pollutant sources (near and far) and assesses their impact.

Selected Contents: 1. Introduction 2. Key Stages in the Process 3. Preliminary Design Assessment 4. Assessment of Site Pollutant Concentrations 5. Assessing the Impact of Urban Layout and Building Form on External Pollutant Concentrations 6. Developing a Ventilation Strategy to Minimise Pollutant Ingress 7. References Appendix: PPC/LAPPC Sector Guidance Notes and Process Guidance Notes

2011: 297 x 210: 48pp
Pb: 978-1-84806-147-7: **£40.00**

For more information, visit: www.routledge.com/9781848061477



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NEW

ADAPTIVE THERMAL COMFORT: PRINCIPLES AND PRACTICE

Fergus Nicol, London Metropolitan University, UK, **Michael Humphreys**, Oxford Brookes University, UK and **Susan Roaf**, Heriot Watt University, UK



In a world where fossil fuels are becoming ever scarcer and more expensive, and the climate more extreme, the challenge of designing comfortable buildings today requires a new approach.

This timely book is the first in a trilogy from leaders in the field which will provide just that. It explains, in a clear and comprehensible manner, how we stay comfortable by using our bodies, minds, buildings and their systems to adapt to indoor and outdoor conditions which change with the weather and the climate. The book is in two sections. The first

introduces the principles on which the theory of adaptive thermal comfort is based. The second explains how to use field studies to measure thermal comfort in practice and to analyze the data gathered.

Architects have gradually passed responsibility for building performance to service engineers who are largely trained to see comfort as the 'product', designed using simplistic comfort models. The result has contributed to a shift to buildings that use ever more energy. A growing international consensus now calls for low-energy buildings. This means designers must first produce robust, passive structures that provide occupants with many opportunities to make changes to suit their environmental needs. Ventilation using free, natural energy should be preferred and mechanical conditioning only used when the climate demands it.

This book outlines the theory of adaptive thermal comfort that is essential to understand and inform such building designs. This book should be required reading for all students, teachers and practitioners of architecture, building engineering and management – for all who have a role in producing, and occupying, twenty-first century adaptive, low-carbon, comfortable buildings.

Selected Contents: **Part 1: Theory – Building an Adaptive Model** 1. Thermal Comfort – Why it is Important 2. Thermal Comfort: The Underlying Processes 3. Field Studies and the Adaptive Approach 4. The Heat Balance Approach to Defining Thermal Comfort 5. Standards, Guidelines and Legislation for the Indoor Environment 6. Low Energy Adaptive Buildings **Part 2: Practice – Conducting a Survey in the Field and Analysing the Results** 7. What Sort of Survey? 8. Instruments and Questionnaires 9. Experimental Method 10. Analysis and Reporting of Field Study Data

March 2012: 246 x 174: 200pp
Pb: 978-0-415-69159-8: **£23.99**
eBook: 978-0-203-12301-0

For more information, visit: www.routledge.com/9780415691598



2ND EDITION

AIRTIGHTNESS IN COMMERCIAL AND PUBLIC BUILDINGS

Michael Jaggs and **Chris Scivyer**



The only guide that provides comprehensive practical guidance on airtightness and detailing for commercial and public buildings and other non-domestic buildings. Provides generic examples of frequently occurring air leakage paths and practical guidance on methods and materials suitable for sealing common construction detailing.

Selected Contents: 1. Background Principles 2. Understanding the Causes of Infiltration 3. Infiltration Paths 4. Minimising Infiltration: The Benefits 5. Design Principles 6. Identifying Zones Requiring Protection 7. Designing a Tight Envelope 8. Specification 9. Achieving Airtightness 10. Inspection During Construction 11. Testing and Auditing for Airtightness

12. Guidance Notes for Site Representatives and Building Control Officers 13. Remedial Work on New and Existing Buildings 14. Appendix: Ventilation Requirements 15. References and Further Reading

2011: 297 x 210: 44pp
Pb: 978-1-84806-174-3: **£40.00**

For more information, visit: www.routledge.com/9781848061743



TRANSIENT AIRFLOW IN BUILDING DRAINAGE SYSTEMS

John Swaffield, Heriot-Watt University, UK

Providing the first comprehensive presentation of the groundbreaking research undertaken at Heriot Watt University with industrial funding, this book brings a new perspective to the design of building drainage and vent systems. It provides the building services community with clear and verifiable design methods that will be robust enough to meet challenges such as climate change and water conservation, population migration to the mega cities of the developing world and the consequent pressures of user concentration, the rise of the prestige building, and the introduction of new appliances and control strategies.

Selected Contents: 1. Introduction to Water Flow Induced Air Movement in Building Drainage and Vent Systems 2. Introduction to Unsteady Flow and Pressure Transient Propagation 3. Air Pressure Transient Propagation 4. Theory and Method of Characteristics Solutions 5. Introduction to Air Pressure Transient Control and Suppression Strategies 6. Case Studies 7. Development of Linked Applications of MoC Simulations 8. National Codes 9. Conclusion

2010: 234 x 156: 362pp
Hb: 978-0-415-49265-2: **£80.00**
eBook: 978-0-203-87975-7



For more information, visit: www.routledge.com/9780415492652

NEW

LOW FLOW WATER FITTINGS: WILL PEOPLE ACCEPT THEM?

Josephine Prior, John Griggs, Mindy Hadi and Steven Brown



With the challenges of global warming, climate change and population growth, and increasing concern in the UK that the demand for wholesome water will soon begin to exceed supply, a study was conducted to survey the acceptability of introducing low flow water fittings to domestic buildings. The study included: an experiment to test public opinion about low flow water fittings, focus group, survey of manufacturers and installers, and a literature review of public attitudes and behaviour regarding water use. The results give an improved understanding of the barriers and enablers to water-efficient behaviour which is essential to the appropriate installation of low flow rate appliances and

their acceptance by the public.

June 2012: 297 x 210: 64pp
Pb: 978-1-8480-6215-3: **£45.00**

For more information, visit: www.routledge.com/9781848062153

BIOMASS ENERGY

Wood-based Fuels for Space and Water Heating

Ed Suttie

Biomass is a growing source of energy in the UK. This report considers the use of wood-based fuels for space heating and water heating in the built environment. The opportunities for biomass to supply the energy needs of commercial, public and domestic buildings in the UK are reviewed, followed by an introduction to the technologies, fuels and boiler options. The supply chain, strengths and weaknesses are considered and the planning and regulations in this arena are outlined. Case studies illustrate twenty-four applications of biomass energy in a range of housing, commercial, educational and leisure buildings. The report concludes with a review of the case for renewable energy, the economics and costs involved, strengths and weaknesses and future opportunities. Signposts to further sources of information are also given.

Selected Contents: 1. Introduction to the Technologies and Options 2. Case Studies from Commercial, Domestic and Industrial Buildings 3. Economics and Future Options 4. Conclusions 5. Further Reading and Sources of Information

2011: 297 x 210: 32pp
Pb: 978-1-84806-198-9: **£25.00**

For more information, visit: www.routledge.com/9781848061989

NEW

U-VALUE CONVENTIONS IN PRACTICE

Worked Examples using BR 443

Sean Doran, BRE, UK



Learn how to calculate thermal transmittance and mass values of building materials in a unified and consistent way. Includes eight worked examples for wall, roof and floor designs.

Selected Contents: 1. Aims and Introduction 2. Summary Outline of the U-value Calculation Method 3. Example 1: A Pitched Roof with Insulation at Ceiling Joist Level 4. Example 2: A Pitched Roof with Insulation at Rafter Level 5. Example 3: A Cavity Wall Fully-filled with Insulation 6. Example 4: A Cavity Wall with Internal Insulation (Non-contiguous Bridging) 7. Example 5: A Timber-frame Wall with Low-e Services Void (Contiguous Bridging) 8. Example 6: A Hybrid Light Steel Frame Wall 9. Example 7: A Solid Ground Floor 10. Example 8: A Suspended Beam and Block Floor 11. References and Further Reading

January 2012: 297 x 210: 36pp
Pb: 978-1-84806-197-2: **£27.50**

For more information, visit: www.routledge.com/9781848061972

BUILDING SERVICES ENGINEERING - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Intelligent Buildings and Building Automation	Shengwei Wang	2009	978-0-415-47570-9	Hardback	£100.00
			978-0-415-47571-6	Paperback	£45.00
			978-0-203-89081-3	e-Book	
Faber & Kell's Heating & Air-conditioning of Buildings	Doug Oughton and Steve Hodgkinson	2008	978-0-7506-8365-4	Hardback	£85.00
			978-0-08-055764-9	e-Book	
Tropical Urban Heat Islands	Nyuk Hien Wong and Yu Chen	2008	978-0-415-41104-2	Hardback	£100.00
			978-0-203-93129-5	e-Book	
Building Services Engineering	David V. Chadderton	2007	978-0-415-41354-1	Hardback	£100.00
			978-0-415-41355-8	Paperback	£34.99
			978-0-203-96299-2	e-Book	

NEW EDITION OF BESTSELLER

2ND EDITION

QUANTITY SURVEYOR'S POCKET BOOK

Duncan Cartlidge, College of Estate Management, UK and Glasgow Caledonian University, UK



This second edition of the *Quantity Surveyor's Pocket Book* is fully updated in line with NRM1, NRM2 and JCT(11), and remains a must-have guide for students and qualified practitioners. Its focused coverage of the data, techniques, and skills essential to the quantity surveying role make it an invaluable companion for everything from initial cost advice to the final account stage.

Key features include:

- the structure of the construction industry
- cost forecasting and feasibility studies
- measurement and quantification, with NRM2 and SMM7

examples

- estimating and bidding
- whole life costs
- contract selection
- final account procedure.

Includes recommended formats for cost plans, developer's budgets, financial reports, financial statements and final accounts. This is the ideal concise reference for quantity surveyors, project and commercial managers, and students of any of the above.

Selected Contents: Preface 1. The Quantity Surveyor and the Construction Industry 2. Forecasting Costs and Values 3. Measurement and Quantification 4. Procurement 5. Pricing and Tendering 6. Contract Procedure 7. Final Account. Useful Links and Contacts. Further Reading. Useful Measurement Rules and Conventions

June 2012: 186 x 123: 416pp
Pb: 978-0-415-50110-1: **£18.99**
eBook: 978-0-203-11479-7

For more information, visit: www.routledge.com/9780415501101

TEXTBOOK • 3RD EDITION

NEW ASPECTS OF QUANTITY SURVEYING PRACTICE

Duncan Cartlidge, Construction Procurement Consultant, UK

In the 1990s, many pundits said that Quantity Surveyors were going the way of the dodo, a prophecy which has proven to be far from accurate. In response, Duncan Cartlidge wrote the first edition of this book, to address the changing role of the QS in the twenty-first century. As we enter the second decade of the twenty-first century, the pressure on the QS profession continue to change and evolve and so this third edition includes new chapters to help students and professionals deal with the new issues they face. Key areas for new coverage include:

Alongside these new issues, the chapters addressing issues such as procurement, IT, global markets and adding value have been updated to reflect changes in practice since the second edition. With an emphasis on current practice, you will find this book an indispensable guide as you embark on your career in quantity surveying.

2011: 234 x 156: 288pp
Hb: 978-0-415-58042-7: **£100.00**
Pb: 978-0-415-58043-4: **£29.99**
eBook: 978-0-203-85110-4

For more information, visit: www.routledge.com/9780415580434

TEXTBOOK

INTRODUCTION TO BUILDING PROCUREMENT

Brian Greenhalgh, Quantity Surveying consultant, UK and **Graham Squires**, University of the West of England, UK



Introduction to Building Procurement familiarizes the reader with the principles and methods of the procurement of buildings, starting at the most basic level. Starting with introductory chapters that explain the structure of the construction industry, the nature of clients, and the historical development of the procurement methods in use today, the book goes on to address core procurement tasks. It is the ideal introductory textbook for professionals and undergraduates studying quantity surveying, construction project management and construction commercial management.

Selected Contents: 1. Introduction and Nature of the Construction Industry 2. Clients of the Construction Industry 3. Historical Development of Building Procurement Systems 4. Roles Carried Out in a Construction Project 5. Tendering and Payment 6. Separated Procurement Systems 7. Project Specific Procurement – Overlapping Roles 8. Project Specific Procurement – Integrated Roles 9. Long Term Relationships – Partnering 10. Long Term Relationships – Framework Agreements 11. Public Sector Projects 12. The Selection of Building Procurement Systems 13. Future Trends

2011: 246 x 174: 272pp
Hb: 978-0-415-48215-8: **£100.00**
Pb: 978-0-415-48216-5: **£24.99**
eBook: 978-0-203-88506-2

For more information, visit: www.routledge.com/9780415482165

LIFE CYCLE ASSESSMENT IN THE BUILT ENVIRONMENT

Robert Crawford, University of Melbourne, Australia

Life cycle assessment enables the identification of a broad range of potential environmental impacts occurring across the entire life of a product, from its design through to its eventual disposal or reuse. The need for life cycle assessment to inform environmental design within the built environment is critical, due to the complex range of materials and processes required to construct and manage our buildings and infrastructure systems.

After outlining the framework for life cycle assessment, this book uses a range of case studies to demonstrate the innovative input-output-based hybrid approach for compiling a life cycle inventory. This approach enables a comprehensive analysis of a broad range of resource requirements and environmental outputs so that the potential environmental impacts of a building or infrastructure system can be ascertained. These case studies cover a range of elements that are part of the built environment, including a residential building, a commercial office building and a wind turbine, as well as individual building components such as a residential-scale photovoltaic system.

Comprehensively introducing and demonstrating the uses and benefits of life cycle assessment for built environment projects, this book will show you how to assess the environmental performance of your clients' projects, to compare design options across their entire life and to identify opportunities for improving environmental performance.

Selected Contents: 1. Global Environmental Issues and the Built Environment 2. Towards a Sustainable Built Environment 3. Life Cycle Assessment 4. Quantifying Environmental Impacts in the Built Environment 5. Case Studies: Examples of Life Cycle Assessment in the Built Environment 6. Opportunities for Reducing the Environmental Impact of the Built Environment

2011: 234 x 156: 272pp
Hb: 978-0-415-55795-5: **£80.00**
eBook: 978-0-203-86817-1

For more information, visit: www.routledge.com/9780415557955

QUANTITY SURVEYING - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Construction Cost Management	Keith Potts	2008	978-0-415-44286-2	Hardback	£100.00
			978-0-415-44287-9	Paperback	£32.99
			978-0-203-93301-5	e-Book	
Estimating and Tendering for Construction Work	Martin Brook	2008	978-0-7506-8616-7	Paperback	£26.99
			978-0-08-087810-2	e-Book	



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TRADITIONAL CONSTRUCTION FOR A SUSTAINABLE FUTURE

Carole Ryan, formerly of Bournemouth University, UK



As the construction industry faces up to its environmental responsibilities, this book explores its rich and ancient tradition to provide tried and trusted solutions to modern day construction problems. Over 250 original photos, and over fifty bespoke diagrams illustrate the features, techniques, and characteristics of traditional construction that could make such a valuable contribution to the industry today.

Selected Contents: 1. The Natural Way of Life, the Birth of the Traditional House and its Demise 2. Traditional Building Materials, their Sustainability, and the Contrast with Modern Materials 3. Traditional Sustainable Building Construction- Ancient and Modern 4. Thermal Performance and the Breathing Wall 5. Climate, Site and Thermal Performance 6. The Role of the Building Regulations in Traditional Building Construction 7. The Pathology of Traditional Buildings

2011: 246 x 174: 384pp
Hb: 978-0-415-46756-8: £100.00
Pb: 978-0-415-46757-5: £29.99
eBook: 978-0-203-89550-4

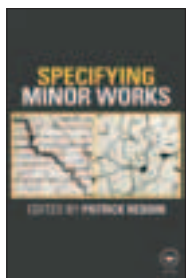
For more information, visit: www.routledge.com/9780415467575



NEW

SPECIFYING MINOR WORKS

Edited by Patrick Reddin, Executive Director of the Association of Building Engineers (ABE), UK



Throughout the specification process, all manner of issues face the surveyor, property manager or building engineer, from describing common defects to addressing energy efficiency and carbon emissions. In addition to these tasks this book also gives clear guidance on building control, specification, neighbour issues and conservation.

Selected Contents: 1. Statutory Control 2. Listed Buildings and Conservation Areas 3. Sustainability 4. Neighbour Issues 5a. Foundations, Walls, Floors 5b. Roofs 5c. Drainage 6. Pre-Contract 7. Specification 8. Post-Contract

October 2012: 246 x 174: 160pp
Pb: 978-0-415-58351-0: £29.99
eBook: 978-0-203-12565-6

For more information, visit: www.routledge.com/9780415583510



NEW

STRUCTURAL DESIGN IN BUILDING CONSERVATION

Dimitris Theodossopoulos, University of Edinburgh, UK



No building is properly conserved if it is not structurally sound. Consequently architects, engineers and conservation officers need an adequate grounding in the technology as well as in the materials and the historical origins of the building.

Structural Design in Building Conservation deals with the design of structural interventions in historic buildings and shows how the associated technical choices affect the planning and architectural outcomes in a conservation project. It brings together theory with current conservation technology, discussing its possibilities in architectural expression and is particularly directed to students of architectural conservation technology. It combines a

technical manual (with details), a text for practising engineers, and guidance through case studies, with good examples of repairs, strengthening, additions, and interventions, and with advice on the specialist literature.

The book introduces the philosophy of structural interventions within the range of conservation theories and discusses current practice and the regulatory frameworks of various European countries. It then outlines the main types of strengthening repairs and interventions in terms of building types and the structural nature of the main elements to be strengthened (linear structures, frames, plates and shells). Significant case studies are presented of historic mills, stone block buildings, neoclassical houses, historic reinforced concrete structures, and vaulting types.

Selected Contents: 1. Introduction 2. Theoretical aspects in structural interventions 3. Structural theory in historic buildings 4. Building types and their failure 5. Knowledge from structural assessment 6. Strengthening and repair techniques 7. Design interventions. Gazetteer of case studies. Bibliography. Index.

June 2012: 234 x 156: 264pp
Hb: 978-0-415-47945-5: £100.00
Pb: 978-0-415-47946-2: £34.99
eBook: 978-0-203-88725-7

For more information, visit: www.routledge.com/9780415479462



BUILDING SURVEYING - ALSO OF INTEREST

TITLE	AUTHOR(S)/EDITOR(S)	PUB DATE	ISBN	BINDING	PRICE GBP
Specifying Buildings	Stephen Emmitt and David T. Yeomans	2008	978-0-7506-8450-7	Paperback	£26.99
			978-0-08-056971-0	e-Book	
Building Surveys	Peter Glover	2008	978-1-85617-606-4	Paperback	£27.99
			978-0-08-088437-0	e-Book	
Spon's Practical Guide to Alterations & Extensions	Andrew R. Williams	2008	978-0-415-43426-3	Paperback	£16.99
			978-0-203-93204-9	e-Book	

QUANTITATIVE RISK ASSESSMENT IN FIRE SAFETY

Ganapathy Ramachandran and David Charters, Ove Arup, UK



This innovative guide addresses the probability of initiation, smoke movement and fire spread and the reliability of detection, human response and Fire Service intervention. The probabilistic techniques described use statistical information provided by actual fires, offering rational methods for dealing with the randomness of fire risk and effectiveness of fire safety measures.

Selected Contents: 1. Introduction 2. Qualitative and Semi-quantitative Risk Assessment Techniques 3. Quantitative Risk Assessment Techniques 4. Acceptance Criteria 5. Initiation 6. Design Fire Size 7. Fire Spread Beyond Room of Origin 8. Performance and Reliability of Detection, Alarm and Suppression 9. Performance and Reliability of Human Response and Evacuation 10. Performance and Effectiveness of Fire Service Intervention 11. Whole Project Analysis 12. Interactions 13. Combining Data from Various Sources – Bayesian Technique

2011: 234 x 156: 384pp

Hb: 978-0-419-20790-0: **£90.00**

eBook: 978-0-203-93769-3

For more information, visit: www.routledge.com/9780419207900



AUTOMATIC FIRE DETECTION AND ALARM SYSTEMS

An Introductory Guide to Components and Systems

R. Dudley



Automatic fire detection and alarm systems are effective and reliable means of detecting fires and signalling an alarm to occupants. This guide introduces these systems, explains how they are developed and managed, and the regulatory requirements.

Selected Contents: 1. Introduction 2. Background 3. What is an Automatic Fire detection and Alarm System? 4. Operation and Performance of Automatic Fire Detection System Components 5. Standards 6. False Alarms 7. Avoiding Problems with Automatic Fire Detection and Alarm Systems. References

2011: 297 x 210: 24pp

Pb: 978-1-84806-146-0: **£22.50**

For more information, visit: www.routledge.com/9781848061460



DESIGN FIRES FOR USE IN FIRE SAFETY ENGINEERING

(FB 29)

Christopher Mayfield and Danny Hopkin



This text provides technical data and guidance on defining a robust and appropriate design fire for use in the fire safety engineering design of a building. It explains: what a design fire is; how it can be determined; the limitations of current methodologies; experimental data and calculation methods and current approaches to defining an appropriate design fire.

Aimed at professionals involved in the fire safety engineering design process, either as designers fulfilling a brief or as regulators/approvers of the design, this guidance provides data that originate from a range of sources including fire tests undertaken by BRE Global. It can be used to source

quantifiable parameters such as heat release rates and fire growth rates that are proportionate to the fire hazard foreseen.

Selected Contents: Part 1 1. Introduction 2. Important Factors Influencing Quantification of a Design Fire 3. Steady-state Design Fires 4. Time-dependent Design Fires 5. Fully Developed Fires **Part 2: Experimental Fire Data** 6. Occupancies 7. Commodities. References

2011: 297 x 210: 82pp

Pb: 978-1-84806-152-1: **£45.00**

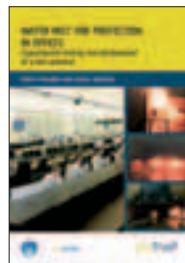
For more information, visit: www.routledge.com/9781848061521



WATER MIST FIRE PROTECTION IN OFFICES

Experimental Testing and Development of a Test Protocol

Kelvin Annable and Louise Jackman



This report describes an experimental study that provides research information and data to assist with understanding the mechanisms for successful water mist fire protection systems in offices.

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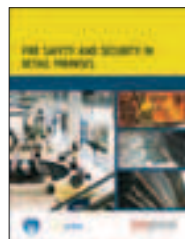
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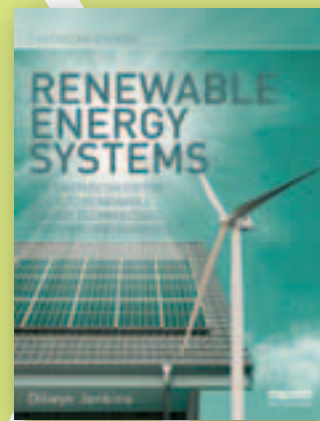
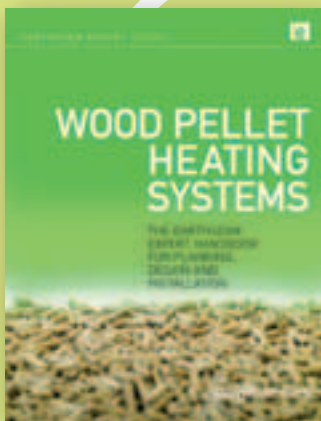
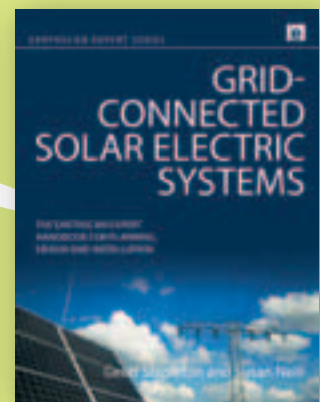
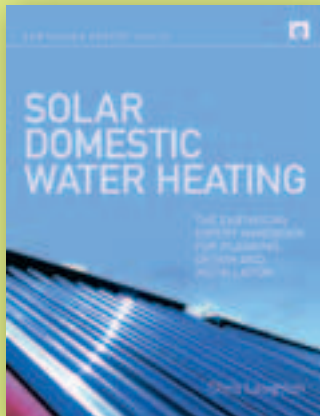
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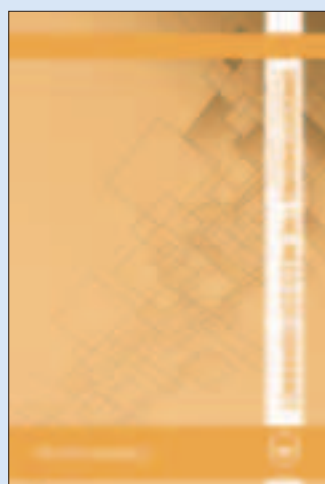
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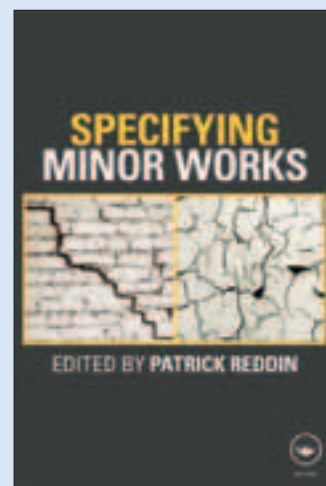
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