

Chemical Damp Proof Course Insertion The Attendant Problems

Old-House Journal is the original magazine devoted to restoring and preserving old houses. For more than 35 years, our mission has been to help old-house owners repair, restore, update, and decorate buildings of every age and architectural style. Each issue explores hands-on restoration techniques, practical architectural guidelines, historical overviews, and homeowner stories--all in a trusted, authoritative voice.

The maintenance of existing building stock is receiving increasing attention in most developed and in many developing countries. Intended as a comprehensive textbook for students, as well as a valuable reference for the professional, this book is a study of building defects, their diagnosis and cure. It deals with the full range of materials, components and elements involved in a building and is fully illustrated and referenced throughout.

A professional reference designed to assist surveyors, engineers, architects and contractors in diagnosing existing problems and avoiding them in new buildings. Fully revised and updated, this edition, in new clearer format, covers developments in building defects, and problems such as sick building syndrome. Well liked for its mixture of theory and practice the new edition will complement Hinks and Cook's student textbook on defects at the practitioner level.

Diagnosing damp takes the surveyor through the necessary techniques for undertaking a thorough examination of a building for dampness and to understand the limitations imposed at each level of investigation.

The definitive guide to measurement and estimating using NRM1, written by the author of NRM1 The 'RICS New rules of measurement: Order of cost estimating and cost planning of capital building works' (referred to as NRM1) is the cornerstone of good cost management of capital building works projects - enabling more effective and accurate cost advice to be given to clients and other project team members, while facilitating better cost control. The NRM1 Cost Management Handbook is the essential guide to how to successfully interpret and apply these rules, including explanations of how to: quantify building works and prepare order of cost estimates and cost plans use the rules as a toolkit for risk management and procurement analyse actual costs for the purpose of collecting benchmark data and preparing cost analyses capture historical cost data for future order of cost estimates and elemental cost plans employ the rules to aid communication manage the complete 'cost management cycle' use the elemental breakdown and cost structures, together with the coding system developed for NRM1, to effectively integrate cost management with Building Information Modelling (BIM). In the NRM1 Cost Management Handbook, David Benge explains in clear terms how NRM1 is meant to be used in familiar quantity surveying tasks, as well as a range of activities of crucial importance for professionals in years to come. Worked examples, flow charts, diagrams, templates and check lists ensure readers of all levels will become confident and competent in the use of NRM1. This book is essential reading for anyone working with NRM1, and is the most authoritative guide to practice available for those preparing to join the industry.

Residential Property Appraisal is a handbook not only for students studying surveying but also for surveyors and others involved in the appraisal of residential property for lending purposes. It focuses on the distinct professional competencies required by Mortgage Valuations and Home Buyers Surveys and Valuations, identifying and advising the reader on the extent and limitations of their activities. Generously illustrated, supported by real-life case studies and drawing on the latest research, professional and legal developments.

Building defects still continue to plague the construction industry. The lessons learned over the last forty years have not been fully applied. Many new or refurbished buildings still leak or crack. Lack of awareness by designers and installers as to the main mechanisms that trigger such failures remains a problem for the industry. Investigating and rectifying building failures form a major part of building surveyors' bread and butter work. This book provides guidance on this work for typical residential, commercial and industrial buildings – with advice on how to diagnose a wide range of defects with an emphasis on evidence based practice throughout. It considers both modern and older construction methods, together with new and traditional materials. The particular problems of alteration and renovation work are also discussed. The first four chapters provide information and guidance on the methodology for investigating failures – how to prepare for and conduct an investigation into a building defect and subsequently diagnose its cause in a logical manner. This fourth edition has been updated and expanded to cover the latest diagnostic procedures and research. It also includes Appendices and a new Bibliography, and provides an extensive list of books on building pathology and related topics in the UK and North America. It is essential reading for all students and practitioners interested in building surveying and building conservation.

Written for small builders and tradesmen such as bricklayers and carpenters, as well as householders wanting to provide more space and enhanced living conditions without the substantial cost of moving house. While there are many books that deal with the construction aspects of extending a house, there are few sources that combine the planning, construction and regulatory aspects into one easily accessible source. Extending and Improving a Home meets that need. By focussing on specific building elements – foundations, walls, roofs, services, finishes etc – the book neatly provides a comprehensive, accessible guide to the areas of home improvement that cause most concern for householders and small builders. Extending and Improving a Home will: Guide you through the maze of legislation that affects most building alterations and extensions; show how to go about getting a project realised in terms of design, choice of contractor and construction, successfully and to budget, and give sound technical solutions for all the elements of a project that also comply with Building Regulations.

In five volumes, Practical Building Conservation provides a comprehensive and practical reference source for those involved in restoration, preservation, repair or maintenance of historic buildings. Architects, surveyors and building contractors will find it essential reading - whether they are responsible for repairing a large, historic site or part of the fabric of a small one. The authors consider the complete range of materials and the problems likely to occur with each. Chemical, mechanical and other forms of treatment are analysed with precise information on which form of restoration works best in each particular case. This is backed up by practical advice - covering everything from complicated repair processes (simply explained) to the removal of ground-in chewing gum from paving stones. The other volumes in this series include: stone masonry; brick, terracotta and earth; plasters, mortars and renders; metals. Volume 5 Wood, Glass and Resins examines the repair and treatment of timber and glass; a short

chapter on the use of resins in conservation has also been added. The sections on wood analyse the problems of fungi, insects, and timber distortion and explore the use of substitute materials and finishes for external surfaces. Techniques for conservation of historic glass include an evaluation of cleaning methods, treatment of paint loss and how to protect glass from vandalism, breakage and the problems of variable climatic conditions. An important feature of this book is the 35 page Select Technical Bibliography representing all five volumes in the series.

The 12th edition of Chudley and Greeno's Building Construction Handbook remains THE authoritative reference for all construction students and professionals. The principles and processes of construction are explained with the concepts of design included where appropriate. Extensive coverage of building construction practice, techniques and regulations representing both traditional procedures and modern developments are included to provide the most comprehensive and easy to understand guide to building construction. This new edition has been updated to reflect recent changes to the building regulations, as well as new material on modern methods of construction, greater emphasis on sustainability and a new look interior. Chudley and Greeno's Building Construction Handbook is the essential, easy-to-use resource for undergraduate and vocational students on a wide range of courses including NVQ and BTEC National, through to Higher National Certificate and Diploma, to Foundation and three-year Degree level. It is also a useful practical reference for building designers, contractors and others engaged in the construction industry.

This publication breaks new ground. It is the first document to provide extensive life-span assessments (for insurance purposes) for a wide range of building components which are classified within the concept of quality specifications. A further benefit is that it does not seek to be prescriptive. It indicative 'benchmarks' against which new or differing specifications can be assessed, in that sense it is both robust and flexible.

This book explains the nature of dampness in buildings, how to diagnose a dampness problem before it gets out of hand and how to deal with it. It covers the problems of rising dampness and condensation (and how to distinguish them), which are generally not fully understood, even by many professional surveyors. The book stresses the need to use a moisture meter to obtain reliable and comprehensive information. Dampness in Buildings will be of immediate practical use to surveyors, architects, builders, housing managers and health inspectors. It will be equally valuable to house owners and potential purchasers.

The aim of this book is to take the reader by the hand and show them exactly how to carry out various inspection techniques to identify the causes of damp in buildings. This is achieved by taking them through a variety of investigation methods using real-life case studies illustrated by dozens of sketches, drawings and photographs – and considerable insight into how investigations can be conducted on site – and also including most importantly the Client's input and perspective on a damp issue. Written in non-technical language by a leading expert and author on damp, the book begins by outlining the common types and phases of an investigation, the equipment required and the nature of potential remedial work. Case studies then cover condensation, penetrating damp, plumbing and roof leaks, below ground moisture and flooding – and less common causes such as residual construction moisture. The final section contains step by step guidance on procedures such as using a humidity box, inspecting a cavity wall, using a damp meter and extracting and testing a plaster sample for salt content. The book is full of hints and tips developed over a career spent investigating, diagnosing and remediating damp issues and is essential reading for surveyors looking to improve their skills and knowledge of this often complex defect. The book will also be very useful for homeowners trying to self-diagnose, and architects, engineers and other professionals who need to gain insight into common problems caused by moisture imbalance in buildings.

Understanding the unique requirements of traditional buildings is crucial to providing appropriate guidance on their care and repair. This book will help practitioners identify the particular issues relating to older buildings and the problems they may encounter when surveying and repairing them. With the use of examples, the author provides invaluable information on how traditional buildings perform, emphasizing the need for a sensitive and sustainable approach which also takes account of the specific needs of the building. The book examines all aspects to be included in any assessment for survey and repair, and points out in detail the potential pitfalls. It also explores the controversial issues surrounding the treatment of damp and timber decay, advocating solutions that are appropriate to older buildings rather than using standard, often damaging, methods of treatment. The extensive case studies not only illustrate good conservation in practice but also how projects can go badly wrong, and how mistakes could have been avoided. This title explores the causes of movement and the actions required. It advises on alternatives to chemical treatment for damp and timber decay. It provides fully illustrated case studies with numerous photographs. It emphasizes a sustainable approach to conservation. It outlines the key legislation issues. It includes the Historic Buildings Prosecution Fines Database and other useful appendices.

Since the first edition was published in 1983, Building Surveys has been the core text in its field for students and professionals alike. Covering everything needed for initial inspections such as equipment, know-how and procedures to writing an accurate report, this book is a proven indispensable guide. It considers all the structural elements required when surveying a property for example, foundations, walls and roofs as well as what to look out for and how to deal with it. Legal considerations and recent cases are used to illustrate good working practice making this a comprehensive text to this important subject.

Despite the widespread use of brick construction throughout the world, there has been no major investigation into its deterioration and durability. This book provides the results of a major international study led by West Germany which examines the causes of decay in addition to the treatment and methods of conserving brickwork and historic mortars. The deterioration mechanisms discussed cover bio deterioration, salt damage and the effects of air pollutants and moisture on masonry. Considerable attention is also devoted to historic mortars and renders, their analysis, behaviour under the stress of air pollution and the development of compatible modern formulations. Conservation methods for brick masonry, including de-salination, protective coatings and injection grouting are examined in detail. A useful and extensive range of case study material is also provided. This volume represents the most comprehensive, state of the art overview of the conservation of historic brick masonry, and will be an invaluable source of reference for all conservation practitioners and researchers working in this field.

Microclimate for Cultural Heritage: Measurement, Risk Assessment, Conservation, Restoration, and Maintenance of Indoor and Outdoor Monuments, Third Edition, presents the latest on microclimates, environmental issues and the conservation of cultural heritage. It is a useful treatise on microphysics, acting as a practical handbook for conservators and specialists in physics, chemistry, architecture, engineering, geology and biology who focus on environmental issues and the conservation of works of art. It fills a gap between the application of atmospheric sciences, like the thermodynamic processes of clouds and dynamics of planetary boundary layer, and their application to a monument surface or a room within a museum. Sections covers applied theory, environmental issues and conservation, practical utilization, along with suggestions, examples, common issues and errors. Incorporates research on the effects of climate change from Climate for Culture, the EU funded, five-year project focusing on climate change's impact on cultural heritage preservation Covers green lighting technology, like LED and OLED, it's impacts on indoor microclimates, preservation and color rendering Includes a case study on sea level issues and cultural heritage in Venice

This new edition of Reporting for Buyers provides guidance for the surveyor on setting out the findings of the inspection in a clear,

unambiguous and unequivocal way. The book provides a full, critical look at the current situation, describing the various types of report currently available to the public for commissioning. The limitations and attributes of these reports are discussed and their respective forms of advice considered in detail, together with the advice provided to buyers which is a legal requirement to Scotland. The authors stress the need for Surveyors to demonstrate their all-round abilities by putting themselves in their client's shoes to provide advice appropriate to their needs and requirements. In doing so they set out a cogent criticism of the standardised forms of advice offered to buyers and the lack of transparency in how they are presented by comparing what is seen by the client and what is set out in the various guidelines available. Surveyors will find the site notes and sample reports invaluable in demonstrating how the same dwelling can be described in the reports available. Sample reports include: mortgage valuation report RICS Condition Report RPSA Home Condition Survey Scottish Single Survey and the RICS Home Buyer Report. This book is intended for all those engaged in inspecting and reporting on dwellings, whether experienced, newly qualified or studying for appropriate qualifications to become members of professional institutions. It will also be found useful to conveyancing solicitors acting for lenders.

This book deals with structural surveys for all types of building - domestic industrial and commercial - and includes diagnosis of a wide range of defects. It considers both modern and older construction methods, and deals with the particular problems of alterations and restoration work. Guidance is given on how to carry out measured surveys and on report writing. The third edition covers the latest definitions of types of property surveys, more information on report writing and a range of detail updates. * Covers all types of building - commercial, industrial and historical - not just domestic * Deals with particular problems of conversion and renovation work - increasingly important today * New edition features latest definitions of survey types, more on report writing and a range of other updates * 'a valuable reference book' - ASI Journal

Back in print for the first time in years, the Watts Pocket Handbook renews its commitment to share industry knowledge by providing technical and legal information across a comprehensive spread of property and construction topics. Compiled by the Watts Technical Director, the Handbook provides specialist information and guidance on a vast selection of construction related subjects including: Contracts and procurement Insurance Materials and defects Environmental and sustainability issues Watts Pocket Handbook remains the must-have reference book for professionals and students engaged in construction, building surveying, service engineering, property development and much more. Buildings with load-bearing earth walls were once widespread throughout Britain and many thousands still survive, including some dating from the fourteenth and fifteenth centuries. Earth is the ultimate form of 'green' building construction, creating no environmental pollutions and consuming virtually no energy. Subsoil can be dug from or near the site to construct buildings that will meet modern needs and conform to the latest building regulations. This book describes all aspects of earth building, explaining how earth performs as a building material and providing guidance on how best to repair and conserve existing earth buildings.

Since the first edition was published in 1983, Building Surveys has been the core text in its field for students and professionals alike. Covering everything needed for initial inspections such as equipment, know-how and procedures to writing an accurate report, this book is a proven indispensable guide. This 6th edition has been updated to include changes in legislation and recent court cases, and highlights new concerns such as asbestos, contamination and energy efficiency in buildings. The book also contains details on the recently introduced Home Condition Report, compulsory for all home sellers as of June 2007, for which an estimated 7500 Home Inspectors will be needed. It considers all the structural elements required when surveying a property for example, foundations, walls and roofs as well as what to look out for and how to deal with it. Legal considerations and recent cases are used to illustrate good working practice making this a comprehensive text to this important subject. * Based on real-life experience of professional surveyors * Covers knowledge, techniques and equipment needed to inspect and report on a range of properties * Legal and regulatory requirements fully updated and explained including details on the Home Condition Report

This is the second of three essential reference volumes for those concerned with the installation and servicing of domestic and industrial equipment. This handy volume explains the basic principles underlying the practical and theoretical aspects of installing and servicing gas appliances and associated equipment. Covering both Natural Gas and Liquefied Petroleum Gas, the many illustrations and worked examples included throughout the text will help the reader to understand the principles under discussion. Volume 2 of the Gas Service Technology Series will enable the reader to put into practice the safe installation and servicing procedures described in the companion volumes: Basic Science and Practice of Gas Service (Volume 1), and Industrial and Commercial Gas Installation Practice (Volume 3). Combining a comprehensive reference with practical application in real-world engineering contexts, Volume 2 provides an essential handbook for all aspects of fundamental gas servicing technology, ideal for both students new to the field as well as professionals and non-operational professionals (e.g. specifiers, managers, supervisors) as an ongoing source of reference.

Now in its 179th edition, Laxton's has become a firm favourite in the UK Building Industry. With more prices and more in-depth build-ups, Laxton's offers more practical and complete information than any other price book available This new edition takes into account major price variations that stem from raw material costs in the last few months. * Higher-fuel costs have impacted on prices across the board, in particular costs of non-ferrous metals in increased * Copper sheet and pipe show price increases of well above 50% in the last year, while zinc, lead and aluminium prices have also risen significantly * There are savings in plaster and drainage goods, prices are down All the prices in Laxton's are based on the new 3 year Construction Industry Joint council wage rate agreement that came into force at the end of June 2006 *Saving you time - comprehensive basic price and approximate estimating sections make putting together outline costings quicker and easier *Saving you effort - all the information you need on each measured item is clearly set out on a single page, with a full break down of costs *Saving you money - all 250,000 prices are individually checked and updated to make sure that your tender costs are precise

A practical guide which enables small builders to tackle everyday alteration and improvement projects with confidence. There are a large number of old masonry buildings in the Sydney area that were constructed without damp-proof courses or have damp-proof courses that have broken down and in which there are now signs of deterioration caused by rising damp. Mould and fungi growths, peeling paint, crumbling plaster and fretting of brickwork or sandstone blocks are characteristic symptoms of this problem. A tried and proven method of overcoming the problem is to cut a slot in the walls and insert a metallic damp-proof course, but this method is often expensive and difficult to carry out. Some alternative methods that were claimed to be less costly and less laborious were investigated some years ago by EBS and the Division of Building Research of the CSIRO and included the injection of chemical solutions into the masonry with the intention of creating an impervious barrier to the upward passage of moisture through the walls. Subsequently EBS carried out an investigation into the effectiveness of an injection treatment with Dri-Sil 48, a silicone-resin concentrate produced by Dow Corning (Aust.) Pty Ltd. Sand-lime bricks were used in these tests because of their uniformity and their relatively high moisture absorption, and the test results showed that under laboratory conditions silicone treatment was effective in blocking the upward movement of moisture. Nevertheless it was pointed out in the report on this investigation that additional tests were required to ascertain whether the silicone treatment was likely to be effective in field situations. An opportunity to continue this evaluation arose recently when EBS was approached by the N.S.W. Public Works Department to advise on methods of combating rising damp problems in some buildings at the Liverpool Technical College. Part of the main building was built in 1825 as a hospital and additions were made in 1866 and 1872. It has been classified by the National Trust as worthy of preservation and extensive renovations are at present being carried out to put this and other buildings at the college in good order. The walls of some of the old buildings are constructed of sandstock bricks built on sandstone footings which in some places extend to a height of about 0.6 m above ground level. There are no damp-proof courses in the walls, but as it was considered too expensive to insert metallic ones EBS was asked to investigate the likely effectiveness of a chemical injection system to overcome the rising damp problem. Laboratory tests were carried out on two systems: * Dri-Sil 48, a silicone preparation injected by W.A. Flick & Co. Pty Ltd. * Vandex Injection Mortar applied by W. Graham Hitchins Pty Ltd. Deposition of a silicone solution on the walls of pores and capillaries within masonry alters the surface tension forces at the solid-liquid interfaces and thereby impedes the upward movement of rising damp through the capillaries. The Vandex treatment is claimed to work on a different principle in which the presence of moisture causes some of the chemicals in the injection mortar to form crystals which gradually spread through the voids in the bricks and mortar and thereby create a physical barrier to the upward movement of moisture.

Chemical Damp-proofing

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