

Energy catalogue





Performance and durability of concrete made using lower carbon belite-ye'elmitite-ferrite cement

The pressure to reduce CO₂ emissions during cement manufacture has led to the development of novel cements based on alternative clinkers. This report focuses on Lafarge-patented Aether cements, which offer 25–30% lower CO₂ emissions.

BR 512 **NEW**

Renewable energy

A collection of BRE expert guidance on installing renewable energy systems in the built environment

A valuable reference library of Digests, Information Papers, and Good Building and Repair Guides on installing renewable energy systems in the built environment.

AP 311 **NEW**

Changing patterns in domestic energy use

This report examines changes in English domestic energy use over time. In doing so it is hoped that changes in energy consumption can be better understood and taken into account in energy modelling and policy. This report covers lighting, appliances, cooking and space and water heating, including bathing and showers.

FB 76 **NEW**

Alkali-activated binders for precast and ready-mixed concrete products

There is a clear need for standardisation and certification of alkali-activated binders and concretes. However, there are a range of possible routes and approaches towards performance-based standards that are open to manufacturers. This Information Paper summarises the current UK position in this emerging area of construction technology.

IP 4/16 **NEW**



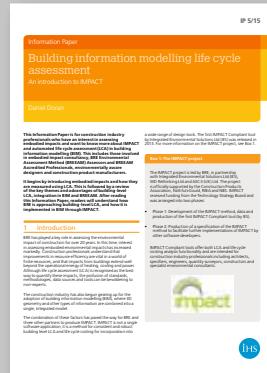
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Building information modelling life cycle assessment

An introduction to IMPACT

Find out how BRE is approaching building-level life cycle assessment, and how it is implemented in BIM through IMPACT, a specified method designed for software developers to add functionality to new or existing BIM applications

IP 5/15 NEW



Changing energy behaviour in the workplace

Discover the psychological theory underpinning behaviour change and how it relates to energy use in the workplace. This guide reviews the role of feedback as a change mechanism and the use of interfaces such as eco-visualisation to motivate and maintain change, using examples from BRE research

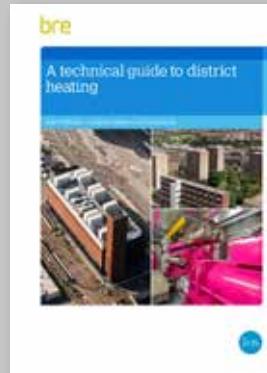
FB 73



A technical guide to district heating

Are you involved in developing a new district heating scheme or refurbishing an existing one? This comprehensive technical guide provides information on system and component design, operation and maintenance.

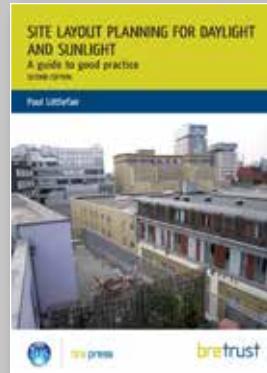
FB 72



Site layout planning for daylight and sunlight

This highly regarded BRE guide gives advice on site layout planning to achieve good sunlighting and daylighting both within buildings and in the open spaces between them. New material covers dense urban areas, trees and hedges.

BR 209 BEST-SELLER



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Renewable energy technologies

Key factors for successful installations

Learn about the major renewable energy technologies with these introductory guides. The 5-part set covers biomass, photovoltaic systems, large-scale low-carbon heating, ground source heat pumps and solar thermal systems.

AP 287, 5-part set



The essential guide to retail lighting

Achieving effective and energy-efficient lighting

This guide reviews typical current practice and gives advice on how to achieve effective and energy-efficient retail lighting. It provides retailers, architects and designers with practical guidelines both on refurbishing existing lighting systems and on developing new lighting solutions for their stores.

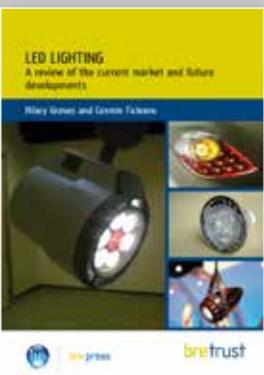
FB 56

LED lighting

A review of the current market and future developments

Learn about the current market for LED lighting and the potential of LEDs as compact, low-energy light sources. This report also outlines the challenges and barriers to adoption of the technology.

FB 40



Design of low-temperature domestic heating systems

A guide for system designers and installers

Low-temperature systems can improve energy efficiency and hence reduce fuel consumption and CO₂ emissions. This guide provides information for those who wish to install low-temperature heating systems in dwellings, and concentrates on the calculations and other conditions necessary to ensure that low-temperature operation can be achieved.

FB 59



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Reducing thermal bridging at junctions when designing and installing solid wall insulation

Learn how to minimise the effects of thermal bridging or inconsistency in thermal envelope performance when designing and installing solid wall insulation during refurbishment. This guide sets out clear principles and methods for reducing thermal bridging effects, maximising carbon emission reductions and minimising the risk of condensation.

FB 61



Wind loads on roof-mounted photovoltaic and solar thermal systems

Get updated guidance on the wind loads to be used for the design of roof-mounted solar systems in the UK. This Digest has been revised and expanded to include guidance for a wider range of roof-mounted solar installations and example calculations.

DG 489, 2014 revision



DC isolators for photovoltaic systems

PV power systems are now commonplace. In most cases the PV systems are safe, reliable systems but incorrectly installed isolators can damage the reputation of the solar power industry, or worse, cause loss of life.

This guide provides the key points to take into account when specifying DC isolators including standards and certifications required.

FB 68



Bridging the performance gap

Understanding predicted and actual energy use of buildings

Find out how to bridge the gap between asset and operational ratings using the UK Green Deal assessment tool for non-domestic buildings. By defining aspects of a building 'in use', the predicted energy performance of the asset can be brought closer to the in-use reality and operational building energy wastage can be reduced.

IP 1/15



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Performance of photovoltaic systems on non-domestic buildings

Learn how to develop a PV system to maximise energy generation performance in commercial buildings. This report uses monitoring data from real buildings and recent research, and draws on experiences within the domestic sector.

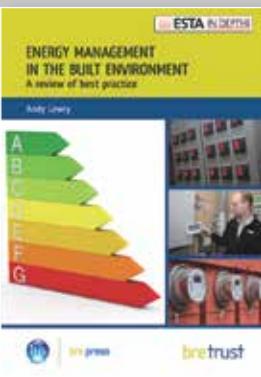
FB 60

Energy management in the built environment

A review of best practice

Get a step-by-step approach to energy management and a powerful matrix tool for energy management initiatives with this guide, which identifies areas for improvement and prioritises energy management activities. Applicable to anyone responsible for energy management.

FB 44



Producing the business case for investment in energy efficiency

One of the biggest obstacles to the uptake of low-carbon measures is the production of a poor business case. This Information Paper provides guidance on how a business case should be put together to present a compelling argument.

IP 2/15



Assessing the performance of Phase Change Materials in buildings

Get inside knowledge about Phase Change Materials (latent heat technology) and how they are being used in building applications. Find out what PCMs are, how they work, their benefits, current technical developments and available products.

FB 84 COMING SOON



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Get a wealth of expertise with the BRE Expert Collections

The BRE Expert Collections provide pdf compilations of BRE Digests, Good Building and Repair Guides and Information Papers on construction topics. Each compilation includes BRE background documents and current guidance and advice on the built environment, offering **exceptional value** for construction professionals.

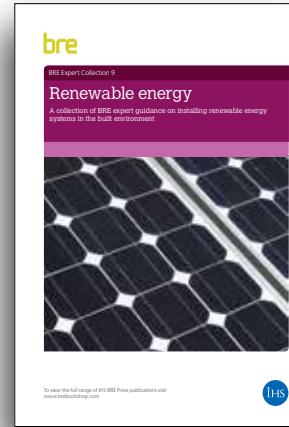
Newly released:

Renewable energy

Installing renewable energy systems (**AP 311**)

Daylight and shading

designing for daylight and sunlight, and shading of buildings (**AP 304**)



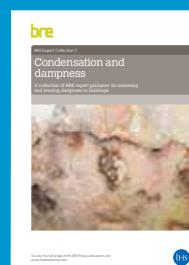
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Many new titles, including:

- External fire spread
- Conventions for calculating linear thermal transmittance and temperature factors (2nd edition)
- The full cost of poor housing
- The cost-benefit to the NHS arising from preventative housing interventions
- Cracking in buildings
- Soakaway design
- Performance of exemplar buildings in use