

# BRE Timber





Wood is an exceptional construction material that offers a range of benefits for building projects.

## Making wood work

Highly versatile, strong and renewable with good thermal properties, wood is intrinsic to helping the construction industry meet its sustainable development objectives.

BRE offers comprehensive capabilities for timber and construction-related research and consultancy. We work on a wide range of projects throughout the timber life cycle, from evaluating the sustainability properties of newly available species to assessing the structural performance, service life and behaviour of innovative wood products.

We provide authoritative advice across the industry for growers, importers and suppliers, distributors and merchants to product manufacturers, architects, designers and house builders. Our in-depth knowledge and industry expertise enables us to provide cutting edge advice and support in areas such as:

- **Impact assessment:** Life cycle assessment (LCA), life cycle inventory (LCI) data acquisition, carbon footprinting, Green Guide ratings, embodied impacts
- **Processing:** best practice and innovation in sawing, kiln drying, machining, grading, scanning, edge jointing, gluing
- **Engineering:** developing and measuring the performance of structural timber and timber products; conducting site investigations
- **Specification:** analysing the behaviour and long term performance of different wood species and wood composites including environmental aspects and structural behaviour
- **Wood performance:** assessing the durability of wood and wood products; use of wood protection and durability enhancement to enhance performance; wood specification to meet service life requirements
- **Resource efficiency and management of timber:** procuring local sources of timber, innovative applications, recycling and reuse of timber and timber products, biomass energy

## Building a better world

Working alongside local and central government, we are active in shaping legislation, developing existing codes and addressing the wider issues that will affect future standards such as safety, sustainability and utilisation of resources.

The Code for Sustainable Homes (CSH) encourages continuous improvement in sustainable home building and the materials used in construction projects. We can help you maximise the sustainable benefits of timber with environmental specification based on life cycle assessment and responsible sourcing that supports CSH and BREEAM requirements.

BRE Global, our sister company, certifies timber products in line with the Construction Products Regulation. It can also independently certify products against British, European, International or other recognised standards, e.g. CE marking.

### Our clients include:

- |   |                                |
|---|--------------------------------|
| – The Forest-Wood chain industries        | – Local authorities            |
| – UK Forestry Commission                  | – Architects and engineers     |
| – Saw millers                             | – Property owners and managers |
| – Wood based panel producers              | – UK government departments    |
| – Joinery manufacturers                   | – Legal firms                  |
| – Wood protection companies               | – Contractors                  |
| – Builders merchants                      | – The European Commission      |
| – House builders and housing associations |                                |



## Our research and testing facilities

Our unique range of testing facilities support our expert consultancy and research capabilities. We typically test against published standards, but can develop dedicated procedures for new, unique or innovative products.

### Our test facilities include:

- Structural testing rigs
- Wood machine shop
- Fire test facilities and full scale burn hall
- National collection of wood samples
- Standard and high temperature drying kilns
- Controlled condition test chambers
- Mechanical testing facilities
- Wood protection laboratory
- In-ground and out-of-ground field exposure sites
- Artificial weathering equipment
- Machine graders
- Window joinery test facility
- Electron and optical microscopy
- Microbiological laboratory
- Insect breeding and testing chambers
- Racking rigs and engineering laboratory
- Pilot scale composite manufacturing plant
- Emissions laboratories

## Our services

### Properties and behaviour

- Wood identification and selection for use
- Assessing the mechanical and physical properties of timber
- Quality and performance testing
- Evaluation of local timber resources
- Testing of wood and wood-based panel products
- Analysing behaviour under specific environmental conditions

### Wood protection and durability

- In-ground and out-of-ground field trials and laboratory tests of product effectiveness
- Specifying and testing wood preservatives and wood modification technologies
- Environmental assessments of preservatives
- Chemical analysis of treated timber and preservative formulations
- Evaluating natural and artificial weathering resistance of wood
- Specifying and testing wood coatings and coated products
- Specifying preventative and remedial treatment procedures
- Design for durability
- Service life performance and maintenance

### Processing and products

- CE marking
- Sawing, kiln drying, machining and conditioning
- End and edge jointing
- Timber grading
- Scanning and sorting
- Laminating and green gluing
- Composite production and use
- Specification for particular end uses
- Compliance with performance standards
- Component performance
- Product innovation and full scale demonstrations

### Sustainability and environment

- Sourcing, legality and sustainability certification and chain of custody
- Optimising procurement options
- Embodied energy and life cycle assessment
- Recycling and reuse of wood products
- Whole life costing
- Energy efficiency
- Resource management
- Product emissions
- Life cycle inventory data
- Carbon footprinting
- Cradle to cradle (C2C)

### Timber engineering

- Assessment and selection of structural timber for specific projects
- Eurocode 5 support
- Testing: full scale structures and components
- Evaluation of housing systems, SIP (structural insulated panel) construction and new timber products
- Timber-related modern methods of construction
- Machine and visual stress grading of timber
- In-situ grading and assessment of timber
- Compliance with national, european and international standards
- Timber construction systems
- Product, system, manufacturing and construction certifications
- Multi-discipline work with fire, acoustics, thermal efficiency
- Product assessment and development

### Buildings and construction

- Specification of wood and components
- On site investigation and appraisal of structures
- Investigation of building defects and failures
- Expert witness work
- Monitoring of timber structures
- Full scale demonstration
- Conservation and renovation

# Contact us

BRE is an independent, research-based consultancy, testing and training organisation, offering expertise in every aspect of the built environment and associated industries. We help clients create better, safer and more sustainable products, buildings, communities and businesses, and we support the innovation needed to achieve this.

Based in Watford with regional offices in Scotland and Wales and international facilities in Canada, China, India and Brazil, we are united by a common goal of 'building a better world together'.



**For more information or to discuss how we can help your construction project:**

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## BRE Trust

The BRE Trust uses profits made by BRE Group to fund new research and education programmes, that will help it meet its goal of 'building a better world together'.

The BRE Trust is a registered charity in England & Wales: No. 1092193, and Scotland: No. SC039320.