Fire safety engineering
Healthcare
About BRE Group

BRE Group

BRE is a world leading building science centre that generates new knowledge through research. This is used to create products, tools and standards that drive positive change across the built environment. BRE helps its government and private sector clients meet the significant environmental, social and economic challenges they face in delivering homes, buildings and communities.

BRE is owned by the BRE Trust, a registered charity. The Trust uses the profits made by the BRE companies to fund research and education that advances knowledge of the built environment.

BRE Global

BRE Global Limited (incorporating LPCB & BREEAM) is an independent third party approvals body offering certification of fire, security and sustainability products and services to an international market. BRE Global’s product testing and approvals are carried out by recognised experts in our world renowned testing laboratories. BRE Global Limited is custodian of a number of world leading brands including:

– LPCB for the approval of fire and security products and services, listed in the Red Books.
– BREEAM the world’s leading environmental assessment method for buildings, sets the standard for best practice in sustainable design and has become the de-facto measure of a building’s environmental performance.

Fire Protection

BRE Global offers a full range of world-class services to meet your business’ fire protection needs. Whether a large public body, or small private company, we offer a range of products under four key fire safety areas:

– Engineering – BRE can provide innovative fire design and engineering solutions in the built environment ensuring that the legislative and client functional objectives are met.
– Investigation – BRE can work with you to understand the causes of fire to help prevent incidents in the future and provide expert witness support
– Research – With world class facilities and decades of knowledge and understanding, BRE continues to research the impact and mitigation of fire in a range of areas, from transport to building construction.
– Risk Management & Assessment – BRE can develop and deliver fire safety management for any size of client to help you minimise the risk of fire for your organisation

Working with private companies, local authorities, fire & rescue services, government, architects & designers, major contractors, building owners, healthcare providers and the transport industry, nationally and internationally, our Fire Group have provided:

– Assessments of new products and innovative design solutions, including ad-hoc experiments and standard fire tests
– Design and management system reviews, including the application of fire regulations, codes and standards, fire statistics and the wide aspects of safety and security
– Experimental and theoretical research covering all aspects of fire safety from passive fire protection to the active fire protection measures and the behaviour of people
– Fire investigation and forensic science.
– On-site inspections, third party certification and safety system approvals
– Pioneering fire safety models
BRE’s fire engineering balances an understanding of innovation in building design and construction with the legislative safety, property protection and business continuity requirements.

The developments in modern construction have increased the size and complexity of new buildings while also giving older ones new leases of life.

Our fire engineering team can assist in your building development, whatever the size of building, developing designs that maximise a building’s functionality and aesthetics while reducing costs, project risks and ensuring the safety of both the building and its occupants.

We do this by applying our wealth of knowledge and understanding of the effects of fire and the reaction and behaviour of people to fire based on engineering principles to assist in the design and operation of a range of buildings, such as:

- Airports
- Healthcare Buildings
- Stadia
- Shops and shopping centres
- Stations
- Tall Buildings

For the most effective use of skills and knowledge, we recommend that you bring our team in early. At that stage, we can maximise the benefits and work closely with your team through all the design stages to deliver the best possible value.

We recognise that the health sector comprises a complexity with distinctive risks and that organisations within the field require specialist expertise for their fire safety concerns. BRE, with their knowledge and experience from working with a wide range of world renowned and top class health care providers, are able to offer unique solutions to every fire safety issue.

We can assist any provider with a range of fire safety advice and assistance, from working with architects and designers for a new building, or extension to an existing one, through to undertaking fire safety risk assessments for your entire estate.

Our experts offer a range of services including:

- Compliance checking against guidance and regulations
- Fire behaviour modelling
- Fire detection and alarm systems
- Fire risk (and hazard) assessments
- Fire safety management
- Material performance
- Means of escape analysis
- Peer review
- Structural fire precautions
- Suppressions systems

As with all our work, by bringing our team in early, we can offer you the maximum benefits through your whole design stage to deliver your individual required outcomes.
Case Study

Working with a design team undertaking the plans for an extension to a well known, internationally reputed hospital, BRE provided fire consultancy advice to support the building design process, offering unique solutions to meet the complex issues that arose.

After submitting a plan for a proposed extension to an existing building on an estate of one of the foremost teaching hospitals in the UK, the hospital design team came to BRE for assistance in meeting the requisite regulations. BRE undertook a review that highlighted areas of the design that did not meet the Health Technical Memorandum (HTM) – the advice issued by the Government in relation to specialised building and engineering technology used in the delivery of healthcare.

The report confirmed which areas did not meet the regulations as well as informing the design team whether compliance to the prescriptive HTM guidance would be most appropriate or an alternative solution could offer greater benefit.

BRE followed up the report by investigating a range of different approaches which allowed the functional design to operate as intended while also ensuring the necessary high standard of safety.

One of the areas highlighted in the report that did not meet the prescribed regulations was a lift and stairwell proposal, protected from the adjacent accommodation by a lobby. Due to the design, the lobby was also a through route between two sections of the estate on the top floor of the extension. This raised concerns as, in the event of a fire, there was potential for the lobby to increase the movement of smoke around both horizontal and vertical escape routes. BRE suggested two potential options to the problem that would protect the stairwell from smoke contamination while also maintaining the specific design features and benefits.

This is just one example of where, by working with a design team at an early stage, BRE can propose solutions to fire safety problems that both meet the regulations and optimise the functionality of the conceived building in a cost effective manner.

Part of the 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.