

Fire Engineering Design Consultancy

Buildings are becoming bigger, taller, deeper and more complex with multiple functions and occupancies. This means that traditional approaches to fire safety often compromise function, cost and safety.

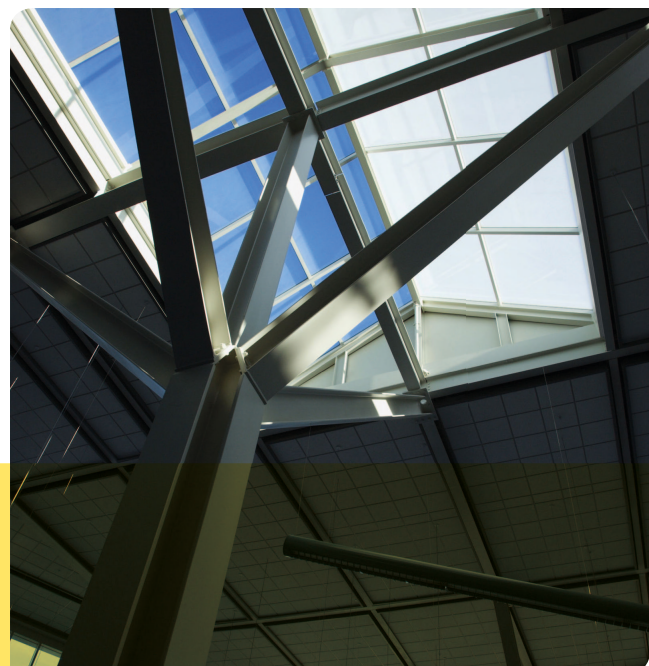
Fire engineering is increasingly providing design solutions that facilitate function and aesthetics, reduce costs and ensure safety in complex buildings such as:

- Airports
- Shopping Centres
- Stadia
- Tall buildings
- Stations
- Tunnels
- Museums and Art Galleries
- Healthcare
- Schools
- Industrial
- Ships

Services provided by BRE include:

- Independent review of fire strategies
- Design review
- Design advice
- Fire strategy development
- Design fire analysis
- Smoke movement modelling and management
- Fire detection and suppression
- Structural fire engineering
- Evacuation modelling and means of escape
- External fire spread modelling
- Fire service intervention modelling
- Probabilistic fire risk analysis
- Cost-benefit analysis
- Drafting of guidance
- Research
- Expert Witness
- Testing

BRE is at the forefront of new technology and innovation and has long been invited to apply its unique skills and knowledge to construction projects, including Brussels Airport, Barcelona Exhibition Centre and Heysham Power Station.





Case Studies

Changi Airport Terminal 3

A fire engineering strategy was developed for the new airport terminal. This included fire and evacuation modelling and enabled large open concourse areas and tunnel access under terminal.

Barcelona Exhibition Centre

BRE was appointed to assess the performance of the natural smoke management system and means of escape using fire engineering analysis and expert knowledge of fire safety guides. This analysis confirmed the adequacy of the design and so facilitated a very large uncompartmented exhibition space.

Shetland Port Tunnels

BRE was appointed to provide expert peer review of the tunnel fire and risk modelling to inform a revision of the project risk register. An improved, updated and evidence based risk register was produced which led to a more risk/cost effective design solutions.

North Terminal, Gatwick Airport

Gatwick Airport Limited appointed BRE Global to determine the level of fire protection required for steel columns supporting structural floors, in the South Terminal Entrance Buildings. The prescriptive guidance suggested that 60 minutes fire resistance was required. The level and nature of the fire load meant that many of the steel columns could be unprotected.

Gatwick Airport

Gatwick Airport Limited appointed BRE Global to produce fire safety plans for the existing terminal buildings and develop fire strategies for new developments and extensions. These fire safety plans and fire strategies demonstrate the ways in the terminals address protecting people, the buildings and business continuity from fire. A major part of the work involves working with design teams and the airport managers to develop solutions that provide fire safety in the most business/cost-effective manner.

For help with your fire safety engineering problems please contact us:

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