

**BWFC**

**SERVICES PROFILE**

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## Overview

BWC Fire Limited (BWC) aims to provide clients with a fully inclusive fire engineering and risk management service to assist with effortlessly creating and managing building design solutions. The list below gives a summary of BWC's core services with each discussed in greater depth in the subsequent sections.

- Business Continuity & Risk Mitigation
- Computational Fluid Dynamics (CFD) Modelling
- Design Consultancy
- Evacuation Modelling
- Fire Engineering
- Fire Risk Assessments & Regulatory Reform Order Audits
- Independent Peer Review
- Management Planning, Procedures and Benchmarking
- Product Development & Technical Research
- Structural Fire Engineering
- Tender Specifications
- Training
- Value Engineering

Whatever your fire safety needs we can help you.

## Services

### Business Continuity & Risk Mitigation

The vulnerabilities in the business and operating model of an organization can be considered as seven areas: Reputation, Supply Chain, Information and Communication, Sites and Facilities, People, Finance and Customers. The use of this simple model demonstrates to top management the value and integrated nature of the Business Continuity Management approach – holistic, cross functional and cross enterprise.

The successful application of Business Continuity Management increases an organization's resilience which in turn contributes to higher corporate performance.

BWC staff have a proven track record of providing business continuity management training and advisory services to several large organisations both in the UK and internationally.

### Computational Fluid Dynamics (CFD) Modelling

BWC has a background of embracing the latest technology, concepts and science within all aspects of our services. A key part of modern fire engineering is the application of predictive tools, such as CFD modelling, to establish likely conditions within buildings.

BWC utilise specialist Computational Fluid Dynamics (CFD) Models to predict the complex flows of combustion gases within the built environment. In addition to merely applying modelling packages BWC has been involved with internal and external research to develop existing modelling packages and also to validate models against full scale fire tests.

Our past research has assisted the development of several CFD modelling packages with regards to the application of smoke venting and fire suppression. Beyond this our expertise in this area ensures our fire engineering solutions remain at the forefront of design, maximizing vision and aspiration.

## Design Consultancy

BWC offers fire safety design advice on a wide variety of issues. Our best solutions tend to develop as part of a complete holistic building design, covering all aspects of fire strategy however equally our solutions can be more focused to one design aspect in isolation as desired by the client. In every case our ethos is to maximise the design aspirations with the minimum complexity and cost.

Our design skills are not limited to the needs of architects and developers as our team have extensive experience of representing the interests of approving authorities, fire services and third party stakeholders. In each case our services are tailored to assist the specific needs of the client.

## Evacuation Modelling

Evacuation modelling is used in some form on most projects, be it by simplistic exit and staircase width calculations, ASET/RSET calculations, to the use of complex computer modelling software. BWC has experience of utilising all forms of evacuation methodologies to the benefit of our clients' projects, allowing us to apply the most appropriate technology to assist design development, fulfilling our clients' objectives.

Our project solutions readily outperform code based solutions allowing the omission of staircases, the removal and optimisation of exits, increased evacuation efficiency and reduction of supporting fire safety features.

## Fire Engineering

Fire engineering offers an alternative approach to satisfying statutory, insurance and operational safety requirements based on reason and risk rather than prescription. Modern building is driving design to more flexible bespoke approaches that are not possible within prescriptive codes. Fire engineering offers the benefits of assessing the design from first principles assess the building performance under fire and quantify the risks, leading to project specific solutions that achieve high standards of safety whilst also achieving client aspirations and reducing cost.

The application of fire engineering is not limited to complex buildings; it can be applied to all building types. Examples of the potential benefits are:

- Increase lettable floor space by reducing exit widths or removing staircases
- Increasing travel distances within buildings
- Reducing or eliminating structural fire protection
- Increasing glazing within building facades or reducing the fire performance for glazed elements
- Increasing compartment sizes and providing alternative methods of providing compartmentation
- Omit sprinklers from buildings
- Optimising the fire safety system designs to reduce onus on building design

As fire engineering designs are building specific BWC work closely with design teams and clients to ensure the highest standards of service are provided with best value solutions and performance the result.

Technical excellence is at the core of BWC's approach with our consultants being actively involved with internal and external research projects into fire behaviour. Beyond this our consultants have worked on a variety of high profile developments across a broad range of sectors. Inspirational design deserves inspirational solutions this is the core of every BWC project.

## Fire Risk Assessment & Regulatory Reform Order Audits

Following the introduction of the Regulatory Reform Order (RRO) every building which constitutes a place of work (which includes residential common areas but not the apartments themselves) should have a fire risk assessment carried out to ensure adequate levels of fire safety are maintained.



Beyond RRO risk assessments some building designs also require risk assessments carrying out pre-completion as part of the building design process, primarily due to the design not being easily understood until the internal details have been installed.

BWC have a proven track record of providing RRO fire risk assessments and also undertaking issue specific risk assessments on new and existing buildings. In many cases practical advice given and possible restructuring of management strategies have successfully reduced or removed the need for remedial actions, saving money and the need for construction works and associated operational disruptions.

## Independent Peer Review

Recognising the massive benefits that fire engineering can bring to projects approving authorities and fire services are being exposed to more specialist, complex designs and building solutions. In many cases the level of complexity means it is necessary for independent specialists to review the design proposals to assess their validity and provide due diligence for clients and stakeholders.

BWC have extensive experience of carrying out independent reviews for clients, third party stakeholders, approving authorities and fire services. The most important part of our reviewing service is the level of communication between all parties and ensuring the design process progresses.

## Management Planning, Procedures & Benchmarking

Design is only one aspect of the building process and a key part of the ongoing life of a building is how the building is used and how fire safety and evacuation procedures are implemented within the building. At a design stage it is not uncommon for assumptions to be made about the building use which following occupation may change or be modified. Such changes can lead to potentially expensive remedial works to the building.

BWC have worked extensively with landlords and tenants to establish their key desires and operational aspirations and then looked to optimise the building facilities and ways in which the building is managed to ensure that the buildings are evacuated safely and are operated and maintained in a manner to ensure safety levels are maintained throughout the building's lifetime. In many cases the alternative to restructured building operations would typically be remedial works and additional facilities provided within the buildings.

Beyond safety an essential part of any management strategy is establishing procedures to minimise operational downtime and to protect business continuity. BWC's staff have worked with several high profile companies and institutions to improve the quality of their management systems to ensure safety is paramount whilst not compromising operational resources or business continuity.

## Product Development & Technical Research

BWC staff have several years experience of researching and developing fire safety systems for application in the built environment. Utilising this experience we are able to offer services to clients wishing to prove a concept design, obtain independent review or developing a product for application in buildings. Whatever your requirements our technical support services can assist you.

## Structural Fire Engineering

Structural fire engineering is a relatively exclusive area of building design that is often forgotten by team members beyond contractors and surveyors. However it is one of several areas to which extensive research and progress has been made, giving opportunities for massive cost savings and also possible flexibility in construction programming and buildability. BWC uses the latest analytical techniques to optimise the structural elements ensuring adequate protection is achieved efficiently. In many instances it has been possible to reduce the extent of applied fire protection to the structure globally or limit protection to specific elements. In some cases it has even been possible to omit fire protection entirely.

## Tender Specifications

Every project at some stage requires tender information to be prepared in order for the conceptual design to be realised. BWC's team have vast experience of interpreting and developing tender specifications on behalf of clients and tenderers.

By conducting both fire engineering solutions and developing associated tender documentation there is no issue with coordination between works, ensuring optimum efficiency of the tendering process and minimising clarifications.

## Training Courses

Time doesn't stand still and neither does building design, including fire engineering. Continuing Professional Development (CPD) is an important aspect of every professional practice. As active researchers and practitioners of fire engineering we strongly believe in furthering awareness and development.

To keep our clients well informed and up to date BWC offer a full and comprehensive package of education and training, including regular CPD courses on the fire engineering. Our tutors are all highly qualified and experienced presenters.

Our courses can be tailored to your specific needs and desires however some example course areas include:

- Basic Fire Safety Training
- Fire Risk Assessments
- Approved Document B Training
- BS9999 – Code of Practice for Fire Safety Design

## Value Engineering

Excellence in value engineering, value management, and value analysis are the hallmark of our fire engineering design team. BWC's team have vast experience of reviewing tender documentation and designs with a view to optimising the fire safety designs in a flexible and cost efficient way. We regularly utilise our fire engineering skills to optimise escape provisions, reduce or omit staircases, extend travel distances, rationalise fire system provisions, reduce levels of fire protection and maximise building potential.

Each project is assigned a dedicated project consultant that has the experience required to successfully manage each unique project. All fire engineering calculations, designs and strategy development are completed in house, streamlining preparation and on time delivery.

## Project Experience

BWC provides novel and innovative solutions across a wide range of sectors. Whilst we understand the main drivers for each sector, every project is bespoke and BWC endeavour to apply our skills to facilitate each clients individual requirements.

Whether your project is small or large our consultants have the experience and skills to assist you. The following are just a few of the sectors on which BWC has a proven track record.

- Airports
- Education Premises
- Hotels
- Office Accommodation
- Residential Care Premises
- Sports Stadia
- Culture, Media & Public Buildings
- Factories, Industrial and Warehouses
- Medical and Scientific Buildings
- Rail Buildings
- Retail Accommodation
- Waterfront Developments
- Conceptual & Feasibility
- High Rise Buildings
- Mixed Use Buildings
- Residential Buildings
- Shopping Complexes



## Why BWC ?

BWC operates within a wide range of sectors and has a broad wealth of experience. Complementing experience is our implicit ability to understand and meet client's needs using flexible approaches and outside the box thinking. Seven great reasons to choose BWC include:

- Chartered Fire Engineers are actively involved on every project with no exceptions.
- Full Turnkey Support – Our experience, capabilities and services enable us to meet your needs at every stage. By drawing on our full building cycle experience at each stage of a project our staff are able to add value to every project.
- Flexible approach ensuring we always strive to achieve what you want for your building
- Independent advice – We ensure you get the right advice for your project without any secondary motivations
- Quality assured – All of our services are carried out to the principles of ISO 9001
- Cost effective – Consultancy should not mean high cost. We deliberately maintain low operating costs to ensure our organisation is sustainable and also a viable prospect for your project.
- Approachable, proactive and friendly service – We want to build lasting relationships as well as buildings.

For further information on our services and expertise please contact our head office:

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**Registration Number** 07799882

**Registered in England**