

David Sugden, Chairman of the **Passive Fire Protection Federation** talks about fire safety in non-domestic properties.

## Building in fire safety

According to the Government-led Arson Control Forum, the UK has two deaths and 50 injuries from fire in an average week. The estimated cost to society is a staggering £55 million per week.

Although the public has heightened awareness of domestic fires and their tragic consequences, construction insiders know the cost – of life, personal welfare, livelihoods, jobs, education, and property – that commercial fires can cause.

Non-domestic fires may not capture headlines but they do affect industry, society and the local community. Fires in schools have increased, with an average of twenty a week in the UK<sup>1</sup>, making fire safety a top ten item on the list of education priorities.

*The average cost of a fire in a commercial building is £58,100. This includes the economic cost of injuries and fatalities. UK figures for direct losses from fire – including damage to property, death and injury and loss of output through work absence – amounted to £3.3bn in 2003. (Home Office Research Study 229 The Economic Cost of Fire). Insured property losses in the UK during 2005 are set to top £1bn, and uninsured losses are estimated at up to six times that figure.*

The UK parliaments have taken measures to improve fire safety standards for non-domestic premises in separate legislation in Northern Ireland, Scotland and England and Wales. Although titles and details may differ across the UK, the premise of simplification is the same and the raft of fire prevention and protection legislation in place for the last fifty years has been updated and rationalised. In all cases this has led to a fundamental change in the way the standards are delivered; the onus is now on specifiers and architects as well as end-users to minimise fire risk.

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<sup>1</sup> Average of twenty fires a week statistic from [www.wiseuptofire.org](http://www.wiseuptofire.org)

With the emphasis on fire prevention and protection, new regulations will force a culture change to ensure that fire safety is built into the design of all new and refurbished commercial buildings.

Structural (or passive) fire protection provides inherent protection against fire. Every link in the construction chain - from architects, designers and specifiers to surveyors, contractors and engineers – should be aware of the role it plays in saving lives and protecting buildings.

### **Risk assessment based legislation puts emphasis on structural protection**

Active measures like sprinklers, alarms and fire extinguishers are important and now become the responsibility of the property owner or business/organisation head to check and install. However, the responsibility to pro-actively ensure fire safety standards also includes risk assessment of passive (structural) measures; for new build this will become the remit of the architect or specifier. It becomes a more complex activity on older or refurbished buildings where structural safety measures have to be implemented retrospectively. Increasingly, medium-sized businesses and organisations – that don't have an internal health and safety department – will employ specialist agencies to manage the risk assessment of both active and passive fire safety measures.

A fire strategy will only achieve maximum effectiveness if the passive fire protection measures are *already* in place, built into the fabric of a building. Passive fire protection not only maintains the stability of a building's structure during fire, it keeps escape routes safe and helps isolate and limit fire, heat, and smoke so people have time to get out - and fire officers have time to get in.

While the benefits of sprinklers are obvious, it's not so easy for employers and owners of business premises to understand the importance of passive fire protection measures. Specifiers, architects and agency consultants will need to sell in the long-term benefits of an initial outlay on structural consultancy, construction and products.

*"The total UK spend on passive fire protection is more than £1.5 billion (installed value) a year. This is spread over products such as steelwork protection; wall systems; dampers and ductwork; cladding; paints; seals; fire stopping; glazing; doors and door hardware."* David Sugden, Chairman of the **Passive Fire Protection Federation**.

### **What are the implications for architects and specifiers?**

Construction professionals may realise that life and property can be at risk from a single door, but end-users may need to be educated: Fire doors, for example, help contain fire, heat and smoke. Almost all are tested to give up to 30 minutes of fire resistance, with some providing up to 120 minutes resistance. Intumescent seals produce an expanding foam in high temperatures to fill the gap between the door leaf and frame, stabilising fire doors. Fire resistant glazing (e.g. wired glass, special intumescent laminated glass), not only contains flames, smoke and inflammable gas for a crucial time but some types also limit transmission of heat to the other side of the glass.

Many passive fire protection measures cannot be tested in situ, as can active elements such as alarms or sprinklers. So it's vital to ensure not only that fire resistant glazing, fire doors etc. are specified, but also that these products are certified through a UKAS accredited third party scheme. Most importantly, products should be fitted by members of a similarly accredited installer scheme (e.g. the FIRAS scheme for Accredited Installers of Fire Doors), as there is no mechanism in the market to control installation quality.

Specifiers need to ensure the whole construction chain holds together. It's not enough to specify and install the right materials – they have to be installed correctly too.

### **Working together**

The Passive Fire Protection Federation (PFPP) is a unified voice for the industry across the UK. It helps trade bodies and professionals understand buildings' fire requirements, testing or regulation changes, and points out issues to regulatory authorities and other stakeholders such as insurance companies, the fire and rescue services, specifiers and architects, and building owners. Members of appropriate trade organisations in Northern Ireland can apply for PFPP membership through their governing body.

Further information on passive fire protection products and measures is provided on the PFPF website: [www.pfpf.org](http://www.pfpf.org). It offers downloadable information and advice on best practice for property owners and developers, specifiers, installers and fire inspectors.

**END**

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*Issued on behalf of:*

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**Editors notes:** The Passive Fire Protection Federation (PFPF - [www.pfpf.org](http://www.pfpf.org)) is dedicated to growing awareness and giving advice on fire protection, and the Regulatory Reform (Fire Safety) Order 2005 (RRO). Our members include the Chief Fire Officers Association, the Department of Communities and Local Government (previously the ODPM), the Royal Institute of Chartered Surveyors and the Building Research Establishment. Our website carries advice on what to check and best practice in all passive fire protection measures

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