

David Sugden, Chairman of the **Passive Fire Protection Federation**, explains the crucial role that passive fire protection measures play in today's built environment, and how new legislation affects architects and specifiers

Playing with Fire

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 £55 million per week. Twenty fires a week occur in schools alone, and around 2,000 fires are deliberately set each year.

But fire doesn't just cost lives. Insured property losses in the UK during 2005 are set to top £1bn, and uninsured losses are estimated at up to six times that.

Structural or passive fire protection provides the fundamental protection against fire that all buildings rely on. Everyone involved in building and construction - from architects and specifiers to surveyors, contractors and engineers – should be aware of the role it plays in saving lives, and protecting buildings against fire. It affects every link in the construction chain, and with new legislation coming into force, it's more important than ever.

Out of sight, out of mind

Most people think of fire protection measures and products as sprinklers or alarms. But while these active measures are important, they are part of a much larger picture. Paradoxically, an effective fire protection strategy is like an iceberg – there is (or should be) much more to it than meets the eye.

A fire strategy can only work effectively if the hidden passive fire protection measures are *already* in place, and 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 and save the property.

Hot work

While it's obvious how sprinklers work, it's less easy for the man on the street to understand how important passive fire protection measures are, and how they save lives.

Fire doors, for example, work effectively to contain fire, heat and smoke. Most are rated, based on test evidence, to give up to 30 minutes of fire resistance, with some giving 60 and even 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. And fire resistant glazing (e.g. wired glass, special intumescent laminated glass), not only contains flames, smoke and inflammable gas for a crucial period of time but some types also **restrict transmitted heat to very low, comfortable levels.**

It's a high value industry. 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.

Ignorance is no excuse in law

The Regulatory Reform (Fire Safety) Order 2005 (SI2005/1541) comes into force this year. From October 1st certain non-domestic property owners and businesses will be responsible by law (and are criminally liable) for conducting a fire risk assessment of the buildings they own or occupy. If you employ five or more people you must record significant findings of the assessment. The local fire and rescue service authority will be responsible for enforcement. They can insist on improvements by serving enforcement notices, and in extreme cases they can close premises with a prohibition notice. Failure to comply with the new order will be a criminal offence.

What are the implications for architects and specifiers? 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. Those in charge must ensure that the job isn't delegated inappropriately.

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), as there is no regulatory mechanism in the market to control installation quality.

Voicing your concerns

The Passive Fire Protection Federation (PFPF) is a unified voice for the industry. It helps trade bodies and professionals understand buildings' fire requirements, testing or regulation changes, and points out issues to regulatory authorities and other interested stakeholders such as insurance, the fire and rescue service, specifiers and building owners. See (below/left/right)* for a list of full and liaison members.

The first port of call for information on passive fire protection products and measures is the PFPF website: www.pfpf.org. It has a wealth of downloadable information and advice on best practice for property owners and developers, specifiers, installers and even fire inspectors.

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