

A Lack of Clarity About Where Responsibility Lies Throughout the Supply Chain is Undermining Fire Safety in Steel Structures

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In modern buildings made of complex steel structures, the methods and best practices in applying protective coatings are crucial.

The supply chain serving these buildings has become increasingly complicated as the responsibility for fire engineering safety passes from the architect to the installing contractor.

At Sherwin-Williams, we are seeing an alarming number and type of professionals cutting corners at various stages, some dangerously working to assumed load calculations on new materials and designs.

For the fire protection design some of this is simply unsafe design due to ignorance, but there is unsafe design due to bad practice such as assuming utilisation and web stability of cellular beams.

And then there is unsafe design by design.

The most dangerous is where the complex design explicitly excludes adherence to the existing guidance because of time, cost or due to the design being purely ambient.

At a recent round table event of experts in the fire engineering industry a leading architect representing RIBA highlighted how, from an architect's standpoint, you would not know what level of protection is relevant unless a building is purpose-built. It is a matter of risk, he added, and most buildings don't catch fire.

There is clearly a disconnect between the building designers and the contractors, and fire engineering protection is now so difficult that even architects are struggling to find their way through guidance.

Indeed, there is an increasing blurring of the lines of precisely where the responsibility for fire safety lies through the process of concept, design and installation.

It can change project by project but should in practice lie with the designer along with other specification details, whether they are amended through the development stages or not.

Ultimately, the responsibility under legislation lies with the 'Responsible Person' as described in the Regulatory Reform (Fire Safety) Order 2005, which for the purposes of law is referred to as 'the employer and/or the building owners or occupiers'.

They are duty-bound to carry out a fire safety risk assessment and keep it up to date. This is the same approach as health and safety risk assessments and can be carried out either as part of an overall risk assessment or as a separate exercise.

Based on the findings of the assessment, employers need to ensure that adequate and appropriate fire safety measures are in place to minimise the risk of injury or loss of life in the event of a fire.

Once they have identified the risks, they can take appropriate action to control them, remove the risk altogether or reduce the risk and manage them. They should also consider how they will protect people if there is a fire.

How is the Responsible Person to understand and act to cover these issues? The only way very often is to employ fire safety experts, which in turn comes with a cost.

A worrying trend is emerging where the complexity of fire safe design means it can be out of the sphere of knowledge of the Responsible Person, the steel frame designers and indeed, where employed, the fire consultant, particularly if employed to consider non-structural aspects of fire safety.

As a professional group, those who met in the Steel Structures Roundtable Group agreed that steps should be taken to raise awareness of the issues at relevant levels of design and installation, from architects through to estimators including building control officers.

Other actions were to look at the model adopted in Ireland which has tightened building control sign-off, and to consider a third-party scheme to regulate the fire protection design process. And what can be done to act as a deterrent for those flouting guidance and best practice?

We believe there can be no more important issue than to make this area of responsibility clear for all concerned, especially those members of the public who use these modern buildings as part of their daily lives.