

## CLG DETERMINATION ON HOTEL FIRE DOORS

The recent publication of a Determination by the Department of Communities and Local Government (DCLG), regarding fire safety level in a hotel, raises many issues that are critical to the role of passive fire protection in buildings, especially to those serving the fire door industry. The Determination arose after the enforcing authority carried out its requisite review of the hotel's fire risk assessment, prepared by the Responsible Person's nominated Competent Person under the Regulatory Reform (Fire Safety) Order 2005. The local authority, when reviewing the Fire Risk Assessment, as it is mandated to do so under the Order, found anomalies in respect of the assessor's treatment of the need to fit fire and smoke seals onto bedroom doors. The need for seals was contested by the hotel's Responsible Person and so the CLG were approached to adjudicate on the matter by way of a 'Determination'. The findings did not make happy reading for the suppliers/installers of passive fire protection and for the fire door and fire door seal manufacturers in particular, or did they?

From the fire seal suppliers' point of view, the people involved in making the Determination demonstrated that they really had little appreciation of the function and benefits of smoke seals and fire seals. Several times in the Determination it talks about, *'the smoke seals providing increased protection from the spread of smoke in the early stage of a fire and the provision of intumescent seals have been shown to improve the fire resistance of doors'*, keeping the two functions totally separate. This is flawed thinking because the benefit that intumescent and smoke seals provide is continuous protection that provides smoke control across the whole period of fire attack. Intumescent strips have made a major contribution to restricting the flow of **smoke** from the 10<sup>th</sup> minute to the 60<sup>th</sup> minute, or more, as anybody who has witnessed a test on fire will attest. It is possible to increase the duration for which the smoke seal remains effective by formulating the seal material to resist higher temperatures, but as the requirement is only to control ambient temperature smoke, this must never be assumed.

Fortunately, after the first 5 to 10 minutes the intumescent seals become activated and take over the smoke sealing role which they maintain until the end of the duration for which the door is meant to resist fire. The lack of suitable test equipment means that it has not been possible to quantify the resistance to the spread of hot smoke provided by expanded intumescent at full size, albeit academic research in support of an MSc in fire engineering<sup>\*(1)</sup> proved that it is possible and that the results were very encouraging.

Omitting intumescent seals on bedroom and on cross-corridor doors would result in a more rapid loss of tenable conditions in a similar manner to the smoke seals jeopardising the safety of the occupants.

The tone of the Determination was that fire doors without seals were accepted as being adequate several decades ago, i.e. under the requirements of the 1971 Fire Precaution Act and by inference should still be acceptable in 2011/2012. This concept was, in fact, the very principle behind the 'statutory bar' whereby persons responsible for operating certificated buildings did not feel obliged to keep updating their building standards.

Effectively, the 'Crown' indemnified these owners against the need to keep reaching ever higher standards. However, setting of acceptable levels of fire safety is not the responsibility of the owner (the Responsible Person) but it the responsibility of the competent person as he has the ongoing insurable responsibility for the safety of the property.

Is the competent person willing to put his reputation and professional indemnity insurance behind the safety levels enshrined in 40 year old legislation? IFSA suggests that in the event of a fire tragedy occurring in premises for which the fire risk assessor is responsibly, any inquiry would find it hard to understand why the assessment failed to recommend the adoption of equipment that provides higher levels of fire safety. Members of IFSA would not wish to find themselves in that position.

However, one of the most potentially dangerous aspects of not fitting intumescent seals is the fact that many types of intumescent provide essential structural benefits keeping a fire door leaf closed. In the case of unlatched doors, this is the only mechanism that holds the door shut after the door closer melts at around 10 to 14 minutes.

What the Determination fails to recognise is that prior to the late 1970's all unlatched door assemblies were fitted with floor springs which remained operative throughout a fire, keeping the door closed. The invention of intumescent seals which generated pressure changed all this and unlatched doors fitted with overhead closers, became possible and, indeed, preferred, for both financial and simplicity of construction reasons. Not fitting the correct type of intumescent on unlatched doors effectively means that the door will probably fall or be 'blown' open before 15 minutes have been reached. Unfortunately, such doors are normally those that feature in the construction of protected stairways, probably the most important part of any protected escape route because people are in the stairs for longer periods.

Therefore, maybe the argument in favour of the use of seals has not been lost. The recommendation from the CLG was that the fire risk assessment should be carried out again, but this time the report should justify why the seals do not need to be fitted,..... Is that an 'easy' task in the light of the above?

Why should doors in hotels not need to prevent the spread of hot smoke (the most toxic), when restricting cold smoke will do? How do you justify not adopting seals with the benefit of more than 30 years product development, testing and refinement when we can omit the seal completely and revert to 1960's level of fire protection, which experiments showed led to almost immediately smoke logging? Why do we need to keep unlatched fire doors closed when we could allow them to come open after 10 to 12 minutes?

Maybe it is more difficult to justify the omission of fire seals than the CLG Determination suggests.

Knowing how difficult it is to quantify the role of intumescent materials in the assessment of fire hazards is the very reason why IFSA has published a range of free downloads to help the competent persons make an adequate assessment of the risk. These are available [on this site/from IFSA] and perhaps the competent person(s) tasked with carrying out the new risk assessment may find them of some help with the new task because the issues are not as simple as the CLG may suggest.

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<sup>\*(1)</sup> Davies R BSc(Hons) AIFireE AMIMechE: Thesis on Quantification of hot smoke leakage rates across door/frame junctions School of the Built Environment, Jordanstown Campus, University of Ulster 2006