Loss Prevention Standards – Asset Classes

Sprinkler Systems - Acoustic and Decorative Panels

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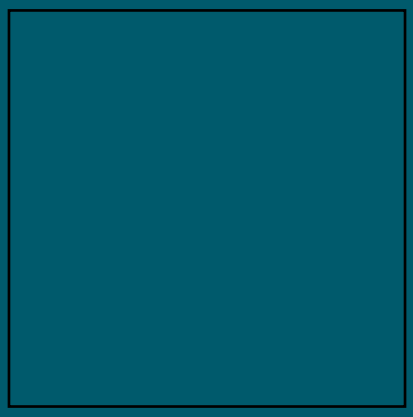


The intention of this Loss Prevention Standard is to ensure that the introduction of acoustic & decorative panels to a building does not compromise the effectiveness of the sprinkler system.

AVIVA

Sprinkler Systems - Acoustic and Decorative Panels

Introduction

A large proportion of office fit outs are now being completed without the installation of traditional false ceilings and are being left exposed to the structural soffit. This leads to the installation of acoustic and decorative panels/baffles/rafts either fixed directly to the soffit or installed below the high-level services.

Acoustic panels are sound-absorbing panels used to mitigate noise and reduce the reverberation and echo in a space. They are typically constructed from a timber frames, acoustic foam and fabric coverings and therefore can add a substantial fire load to an area.

As the use of acoustic and decorative panels is a relatively new occurrence, they are not referenced within The LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 and therefore the size/location/combustibility of the panels are often not taken properly into account when designing the sprinkler system.

Before the installation of these types of panels, it is advised that guidance is sought from a specialist sprinkler contractor or an Aviva Risk Consultant in order to determine the potential impact on an existing or proposed sprinkler system.

The intention of this Loss Prevention Standard is to ensure that the installation of acoustic/decorative panels to a building does not compromise the effectiveness of the sprinkler system.

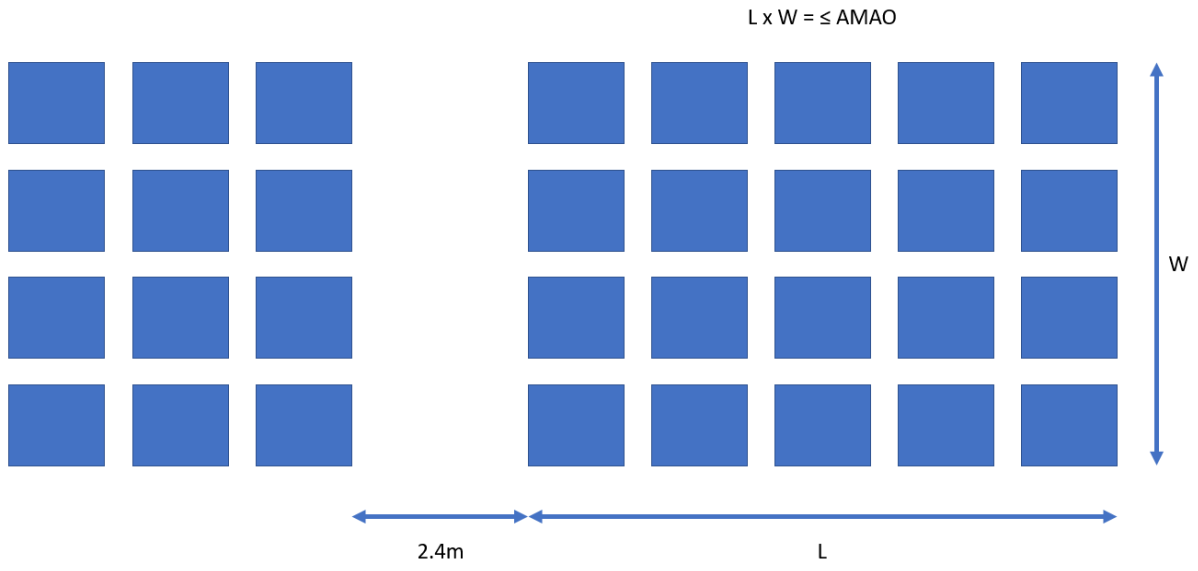
General Design Considerations

- All acoustic & decorative panels should preferably be rated as Class A1 or A2 (EN 13501-1)
- Where combustible panels are installed directly to an exposed soffit or as part of a false ceiling, it can lead to an increased risk of flashover. If hot gasses/smoke are allowed to accumulate in an area lined with combustible materials, then there is the risk that these items will ignite and the fire will spread rapidly throughout the area.
- Consideration should be given to the potential impact that installation of such panels will have on other fire protection systems, such as fire alarm detection devices.

Sprinkler System Design Considerations

When a sprinkler system is installed within an area containing acoustic or decorative panels, it could lead to the sprinkler system not being fully effective. The following considerations should be taken into account when introducing these panels to sprinkler protected areas:

- Panels located above soffit level sprinklers should be Class A1 or A2.
- All other panels should be rated as a minimum of Class B, S1, d0.
- All decorative or acoustic panels installed should have a flaming droplet rating of d0.
- Panels to be located a minimum of 500mm below sprinkler heads.
- If panels are less than 500mm below sprinklers or >1000mm wide then sprinklers will be required above & below the panels as per The LPC Rules Clause for the location of sprinklers in relation to building construction.
- Where arrays of panels, which individually do not meet the requirements for additional protection below, are arranged in close proximity the requirements of The LPC Rules Clause for the protection of open cell ceilings should be used. This will require the installation of additional sprinklers below the array of panels when the total open plan area between panels, including light fittings, is less than 70% of the total plan area.
- If Combustible panels are used, they should be arranged such that they are limited to array sizes of not more than the Assumed Maximum Area of Operation (AMAO) of the sprinkler system with a 2.4m clear space between arrays (See Detail A). This is to reduce the risk of fire spread between the panels beyond the fire area that the sprinkler system is designed for.



Detail A

Specialist Partner Solutions

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For more information please visit:

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Additional Information

Relevant Loss Prevention Standards include:

- Sprinkler Systems – How They Operate
- Sprinkler Systems – Review of Hazards
- Sprinkler System - Design Proposals
- Sprinkler Systems – Flexible Connections
- Sprinkler Systems – Meeting Pods
- Sprinkler Systems – Retail Storage Guidance
- Sprinkler Systems – Winter Precautions

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