

Loss prevention standards

# Window Sprinklers

Window sprinklers are designed to reduce the risk of fire spread, both internally where non-fire rated glazing is used and externally for the protection from nearby buildings. This document provides guidance on the effective use of window sprinklers.



## Introduction

Window sprinklers are specific application sprinkler heads that are designed for the complete wetting of glazing, with the intention of maintaining the structural integrity of the glazing, reducing the risk of fire spread and/or providing exposure protection.

Window sprinklers are often specified by the project's appointed fire consultant as an alternative to fire rated glazing. They are often installed inside the building under consideration with the intention of preventing fire spread or installed externally (with open nozzles) as exposure protection from adjacent buildings. Window sprinklers are also specified where non-fire rated glazing is used internally for compartmentation of escape routes.

The intention of this Loss Prevention Standard is to ensure that the addition of window sprinklers does not compromise the effectiveness of the ceiling sprinklers only.

## Design Considerations and Associated Implications

The use of window sprinklers is not covered within The LPC Rules and there are currently no LPCB Approved window sprinklers. The design and installation of window sprinklers should be in full accordance with the manufacturer's approved data sheet.

The following factors might be taken into account when considering the use of window sprinklers:

- The water supply for window sprinklers should preferably be independent from the ceiling sprinklers water supply
- The minimum operating pressure of window sprinklers is generally 0.5 bar and therefore the pipework is to be sized using full hydraulic calculations
- If the water supplies for the window sprinklers and ceiling sprinklers are combined, then all pipework is to be sized using full hydraulic calculations
- A full hydraulic calculation is to be provided for simultaneous operation of the window sprinklers and ceiling sprinklers if installed and supplied via the same water supply
- The demand for the window sprinklers must be in addition to the demand for the ceiling sprinklers if installed and supplied via the same water supply

Commentary and recommendations:

- Window sprinklers have not been tested for use where horizontal window mullions are installed
- Window sprinklers should be located on the glazing side of any window coverings, e.g. curtains, blinds
- If it is intended to install window sprinklers in lieu of fire rated glazing to comply with Building Control requirements, we would suggest you fully read the data sheet for the specific window sprinklers being used to ensure you understand their use and limitations
- When window sprinklers are installed in lieu of fire rated glazing, then the duration of the water supply should match the required fire rating of the glazing
- The use of window sprinklers may result in a higher specification of fire pump and increased stored water capacity being required. This could have a knock-on effect in terms of increased spatial requirements and project costs

Refer to your Aviva Risk Consultant for clarification of any of the above information.



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## Additional Information

Relevant Loss Prevention Standards include:

- [Sprinkler Systems – How they Operate](#)
- [Sprinkler Systems – Review of Hazard](#)
- [Sprinkler Systems – Winter Precautions](#)

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

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