




An **Architects** guide to:

BS 9991:2015

“The uses and benefits of
water mist fire suppression systems.”



IPH Mist Suppression are a leading
UK & Ireland distributor who design, install
and service premium fire suppression systems.

We are dedicated to protecting homes and
buildings by offering property
owners, developers and their architects a
compliant, creative and discreet
water mist system.



BS 9991: 2015



Fire Safety in the Design, Management and Use of Residential Buildings.

BS 9991 provides a level of flexibility that allows the fire protection measures and the associated risks to be assessed to enable reasonable practical solutions to be designed.

This document has been created to provide a clearer understanding of BS 9991: 2015 and the design freedoms that can be achieved within its scope.

Included are some examples of projects made possible with the use of Automatic Water Fire Suppression Systems (AWFSS). The British Standard gives recommendations and guidance for Dwellings, Residential buildings and Specialised housing with regards to an overall fire strategy and shouldn't be taken as stand-alone examples. This is also applicable to new builds, refurbishments and change of use buildings.

Where permissible within the British Standard, variations on the fire safety provisions by installation of an AWFSS, the specific systems and categories given in Table 2 should be used.

Disclaimer: This booklet is not intended to be a comprehensive guide to all of the aspects of the standard but rather a useful source of background information. Whilst every care has been taken to ensure that the contents of this document are correct at the time of publication, it should never be used as any form of substitution for the BS 9991 standard. IPH Mist Suppression shall be under no liability whatsoever in respect to the contents of this document. It should be noted that there may be specific additional requirements dependent upon local authority building regulations and/or fire authority.



Key Clauses

FIRE SUPPRESSION

5.2.1.2. Multi-basement buildings

For dwellings with multiple floors below ground level, a protected stairway and an AWFSS, 9m metres should not be exceeded for from the foot of the protected stair to any habitable room.

6.3(c) Dwelling houses with one or more storey greater than 4.5m in height (three storeys)

Open plan arrangements on the ground floor can be achieved on condition that AWFSS are installed throughout the property in addition to a fire rated partition and door at first floor level.

6.4.(b) Dwelling houses with one or more storey greater than 7.5m in height (four storeys)

A second, separate protected stairwell is not required if AWFSS are fitted throughout.

6.5.2. Loft conversions

Open plan arrangements on the ground floor are permissible should AWFSS be installed throughout, in conjunction with a fire resisting partition and door at first floor level.

9.1(d) Internal Planning of Flats and Maisonettes

Flats or maisonettes with an open plan arrangement and more than one floor should have a protected stairway and AWFSS fitted. This allows escape to the shared external entrance.

9.3(b) Provision of inner rooms in flats not more than 4.5 m in height.

Inner rooms are not suggested unless the use of an AWFSS is utilised throughout the entire building, along with a grade D LD1 fire detection and fire alarm system in accordance with BS 5839-6:2013.

9.4.2(a) Extended travel distances within an open-plan flat.

Flats more than 4.5m above ground level that are entered on the same level can increase total travel distances to the entrances from 9m to 20m with the use of an AWFSS throughout the entire building, along with an LD1 fire detection and fire alarm system in accordance with BS 5839-6:2013.

9.5.2(d) Maisonettes with floors greater than 4.5m

No requirement to provide a separate means of escape if the maisonette has a protected stairwell and a fully fitted AWFSS.

9.7 Open Plan Layouts

Open planned flats are permissible with a fully fitted AWFSS.

11.1 Flats where occupants are not capable of independent evacuation

It is possible to use provisions of an AWFSS where the use of the building is required for people not capable of independent evacuation (excluding common corridors and stairways.)

It is further possible to protect common areas (excluding common corridors and stairways,) using provisions of an AWFSS where the use of the building is required for people not capable of independent evacuation.

19.1.2 Vehicular Access

Access can be increased significantly if an AWFSS is installed and where the arrival time for the fire service is not more than ten minutes:

- 90m for houses less than 4.5m in height.

- 75m for houses/flats not more than one floor above 4.5m.

23.1 Extra care housing

Extra care housing must be fitted throughout with an AWFSS.

23.2 Travel distances

If an AWFSS is fitted throughout a block of flats, then travel distances can be doubled on common escape from 7.5m to 15m and 30m to 60m

29.4.2 Boundary Distance

Boundary distances can be reduced by 50% with a fitted AWFSS.

The most recent design guide aims to complement BS 9999, which excludes individual dwelling houses from within its scope.

BS 9991 maintains the design flexibility shown in BS 9999 and recognises the strength that AWFSS can bring. Importantly water mist systems get conditional approval providing (subject to AHJ agreement).



Introducing the revolutionary Water Mist System... the next generation of Fire Suppression Systems!



Water Mist Systems have been proven to offer advantages over conventional sprinkler technology in both residential and domestic applications including:

- No accidental activation (Double Knock).
- A discreet finish.
- Minimal water damage in the event of a fire.
- Flexible hosing to navigate difficult areas.
- Operating monthly self tests.
- No need for large water storage tanks.
- Real-time alerts to a smart phone.
- Highly competitive pricing.



Flush Nozzles

Are you looking for a fire suppression system that doesn't negatively impact the aesthetics of your property?



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FREE Consultation & Quote: 01706 309 990 or info@iphmistsuppression.co.uk

When seeking a designer and manufacturer of a custom pump that delivered to our requirements, the decision to engage with iCO and become their approved distributor was easy.

The Custom Pump

Our 16kg pump is very compact making it easier to install or retrofit when compared to traditional sprinklers. Fitting into a kitchen cabinet while using an impressive 12 ltr per min straight from the mains to provide great fire suppression in a modern compact design.



Fire Resistance

Serviceability

Integrated Inlet/Outlet Manifolds

No permanent drain required

Wall or floor mounting

Low Standing Pressure

Actuated ball valve

Drip tray with float switch

Corrosion resistance

Robust operation

Adjustable pump run time

Double Knock Operation



What's the Working Pressure?

Our Pump run pressure can be adjusted from 10 – 100 bar to suite different nozzles which may be used for protection of different applications.

Our compact system detects a fire and discharges a calculated amount of water from the nearest nozzle in a spray pattern designed to suppress it.

The **Custom Pump**' is suitable for:

- Houses & Bungalows
- Apartment & Residential Blocks
- Manufactured or Modular Homes
- Nursing Homes, Hotels & HMO's
- Heritage & listed properties
- Industrial Kitchens

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Ultimately, once installation of a water mist system is complete, it is the nozzles that are the remaining visible feature. We are very happy with the discreet iCO nozzle and the guarantees we provide to home owners, developers and architects.

The Patent Nozzle

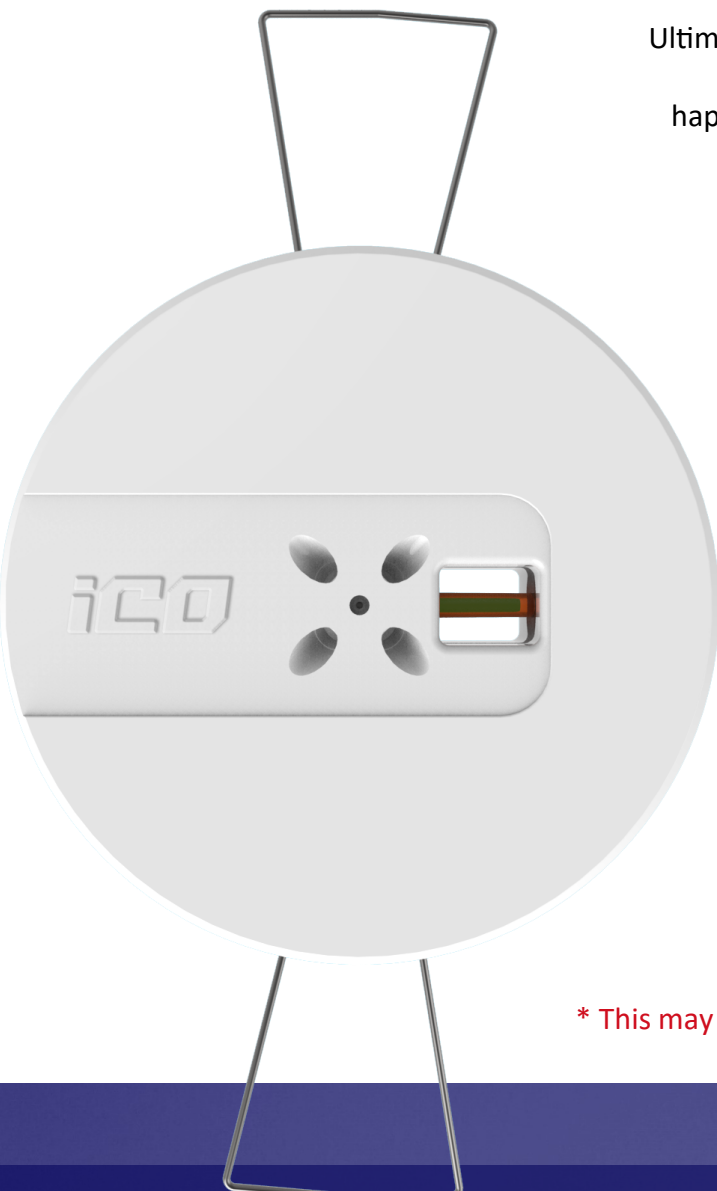
iCO's easy fit misting nozzles are **extremely low profile** sitting just **3mm below the ceiling**, with each nozzle offering 16m² of protection.

This means, in our opinion, that iCO's patented nozzle design is the sleekest, most **aesthetically pleasing** on the market currently being installed into thousands of homes across the UK.

Can I change the Nozzle colour?

Yes, for a premium, the colour of the nozzles can be altered to match any desired colour using the RAL colour code system.

* This may effect lead in time, please check timescales prior to ordering.



Our water mist nozzles are deliberately designed to use **80% less water** than traditional sprinkler heads, making them ideal for the residential home.




Water Damage is the new Fire Damage.

It is repeatedly documented by Property Insurers that it is the great use of water while quenching a fire that is a great financial concern regarding any damage claim.

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Our expertise of the water mist system allows a **creative delivery to design** and flexible installation solutions to real challenges that may present themselves when attending a live site during first fix.

The **IPH approach** supports development projects of all sizes to remain on time and to budget.



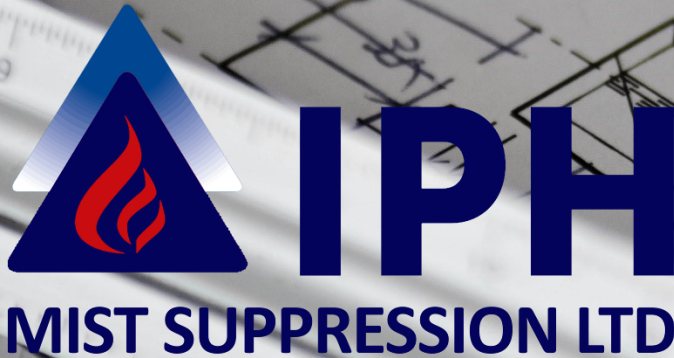
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With accredited engineers placed throughout the country, operating out of our 3 dedicated offices we design, install and service our custom made water mist systems far and wide.



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N. Ireland
Wales
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As every job is completely different, we pride ourselves on offering a tailored solution to meet our client's unique requirements.

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