

# Measure for measure

The numbers game behind  
sprinkler legislation across Europe

CASE STUDY

The Cameron  
House Hotel fire

COMPETENCE

The new sprinkler  
industry SKILLcard



sprinkler news, sprinkler events,  
sprinkler training & sprinkler saves





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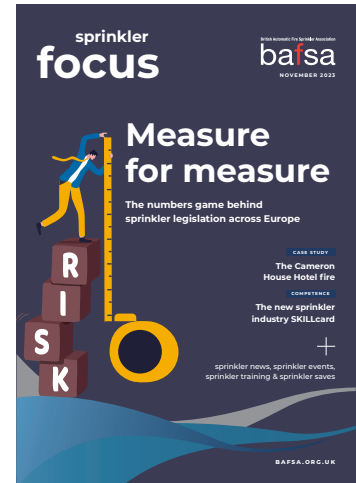
BAFSA joined forces with South Yorkshire Fire & Rescue Service at their training centre in Sheffield for a sprinkler seminar day that looked at everything from legislation to sprinkler inspection.



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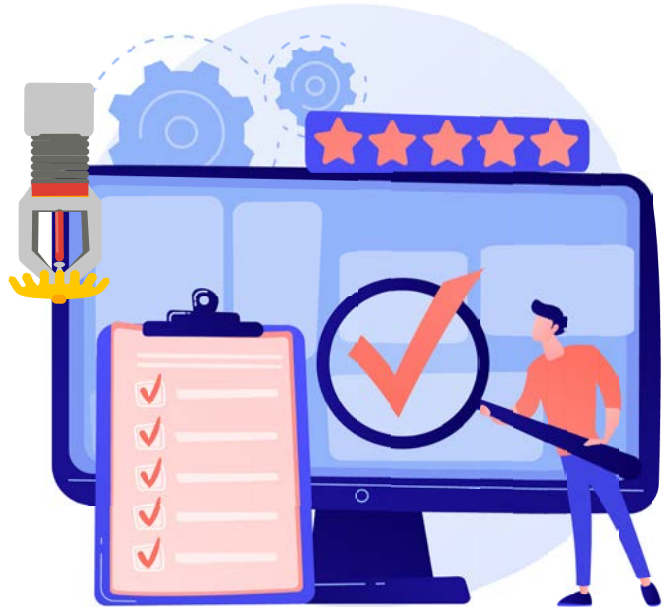
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British Automatic Fire Sprinkler Association

**bafsa**

FROM THE CHIEF EXECUTIVE



# Competence in the sprinkler industry



**Ali Perry**

The quality and competence of the sprinkler industry is of critical importance to BAFSA. Through our technical committee, consultants, and members, the association engages with the relevant standards committees to help shape the industry. The association has developed and provides training courses to ensure the industry meets these standards and has a well-trained, qualified workforce. This commitment to quality is underpinned by BAFSA's requirement for members to have third-party certification.

This year BAFSA is working with the Awarding Body for the Built Environment (ABBE) to develop qualifications and assessments which are valid and reliable and are responsive to customer needs. The association has boosted its fire sprinkler training offering through the new BAFSA Training Centre that provides those working in industry a route to gain recognised qualifications and develop their skills through fire sprinkler design, installation, inspection, and maintenance courses. The new online booking system enables potential candidates and companies to identify, select, book and pay for the appropriate courses via our website.

In another significant development, BAFSA is working closely with the third-party certification schemes. As an example of this, we are engaging with the LPCB as it reviews its 1048 scheme (covering the design, installation, and commissioning of industrial and commercial fire sprinkler systems) to ensure our courses align with this revised scheme. We are also working with the LPCB to include appropriate assessments as part of these courses that will be approved by the LPCB and replace the current LPCB

exams. This will simplify the process for the industry, removing the uncertainty about the timings of exams and the associated challenge of planning and booking courses in line with these timescales.

BAFSA's next 5-year plan is currently being developed and will be launched at the 2023 AGM. I'm not giving anything away, but can confirm it will have skills and development as a key focus.

So much progress has been made to date and as BAFSA prepares to celebrate its 50th anniversary in 2024, the focus is very much on how BAFSA can build on its success and continue to educate and advocate for sprinklers, serve its members, the sprinkler industry and improve the safety of the built environment.

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**“This commitment to quality is underpinned by BAFSA's requirement for members to have third-party certification”**

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## BAFSA Yearbook 2023/24

The latest BAFSA yearbook is out now. Free hard copies are available from BAFSA, or you can download it online in pdf format from the BAFSA website.

The yearbook is an indispensable guide to the fire sprinkler industry with updates on changing legislation, standards and technology. Plus it also contains the latest advice from BAFSA experts on sprinkler applications such as heritage buildings and car-parks.

The yearbook also features an up-to-date printed directory of all BAFSA members. To obtain a copy please email: [marketing@bafsa.org.uk](mailto:marketing@bafsa.org.uk)

## Scotland moves forward on sprinklers in heritage

An expert working group is to be set up by the Scottish Government to consider if sprinkler systems should be made compulsory in historic buildings that are converted into hotels.

The Scottish Government’s decision comes in the wake of The Cameron House Hotel fire in Loch Lomond in December 2017, which resulted in the deaths of two men. A Fatal Accident Inquiry into their deaths heard that sprinkler systems could “significantly slow the spread of flame and would extend the margin of safety for available escape time.”

Following that inquiry, the Scottish Government set up a short-life working group to consider the recommendations made. It has now confirmed it will set up an expert working group, “to review the mandating of automatic fire suppression systems where historic buildings are being converted into hotels”.



Ali Perry chief executive of BAFSA says, “BAFSA has been engaging with Building Standards Scotland on this issue and we hope to be involved in further discussions going forward.”

Turn to page 08 to read Stewart Kidd’s in-depth case study on the Cameron House Hotel fire and the lessons learned.

## BAFSA launches new online fire sprinkler training centre

BAFSA’s has boosted its fire sprinkler training offering with a new online training centre that allows those working in the industry opportunities to improve their skills in fire sprinkler inspection, design and installation.

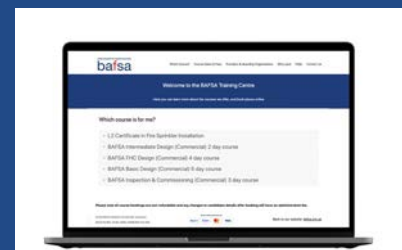
They can now select the appropriate course and book and pay and take their course via the BAFSA website.

Courses include: the L2 Certificate in Fire Sprinkler Installation – a blended learning programme that covers health & safety, maintaining compliance and residential and commercial installation. This qualification is part of the requirement for the Industry Skillcard – Fire Sprinkler Installer Blue Skilled Worker Card.

There are also three sprinkler system design courses available: The BAFSA Basic Design (Commercial) 5-day course covers classification of systems, storage types and categories; water supplies; spacing

and location of sprinklers and component selection, the BAFSA Intermediate Design (Commercial) is a two-day online course that covers zoning of systems, water supplies, alarms and hydraulic calculation for high-rise buildings and the BAFSA FHC Design (Commercial) four-day course follows on from the basic and intermediate design course and cover sprinkler designs which use the fully hydraulically calculated (FHC) method of pipe sizing and water supply selection.

There is also a BAFSA Inspection & Commissioning (Commercial) three-day course which relates to the inspection and commissioning of commercial fire sprinkler systems design in accordance with the LPC Rules including BS EN 12845. This qualification is part of the requirement for the Industry Skillcard – Fire Sprinkler Engineer (Commercial) Blue Skilled Worker card.



Visit [www.bafsa.org.uk/booking/](http://www.bafsa.org.uk/booking/) for further information, course fees and enrolment details



## BAFSA AGM 2023

This year BAFSA's AGM will take place at the Marriott Liverpool City Centre on the 9th November. The day will kick off with a networking light lunch at 12.30pm followed by a series of seminars and presentations from BAFSA's new qualification awarding body, ABBE, along with BRE who are working with BAFSA on delivering a new range of courses and also BAFSA's Stewart Kidd, who will be giving an in-depth presentation on The Cameron House Hotel fire and the lessons learned (read more on this on page 08). This will be followed by the AGM at 4pm and a drinks reception ahead of the evening dinner in the Merchant Suite at 18.45pm. We look forward to seeing you then!



## E-bike fire trend

E-bike fires are London's fastest growing fire trend according to London Fire Brigade, who has warned that there has been a massive spike in e-bike fires this year compared to last year. The Brigade has been running its ChargeSafe campaign, which aims to highlight the fire risks associated with lithium batteries commonly used with e-bikes and e-scooters.

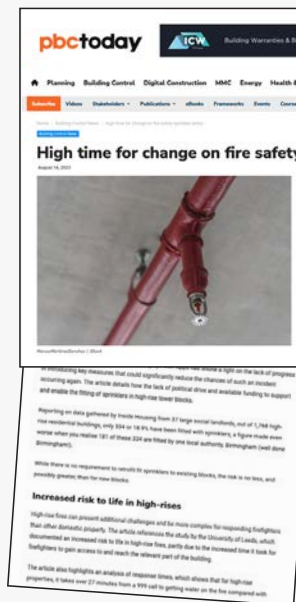
## BAFSA in the press

BAFSA has contributed a number of articles to the fire industry press over the last few months and seen coverage of its sprinkler advocacy in a range of publications.

Chief executive Ali Perry was widely quoted in several fire industry publications, including The International Fire & Safety Journal, UK Fire magazine, The Fire Industry Association and Gulf Fire, regarding his response to a report in Inside Housing magazine on the low-level of sprinkler installations in social housing since the Grenfell tragedy.

Ali also followed this up with an editorial in PCB Today magazine ([www.pcbtoday.co.uk](http://www.pcbtoday.co.uk)) calling for a change of policy on sprinkler legislation in England in high-rise buildings. BAFSA's Richie O'Connell also wrote a piece for Building, Construction & Design magazine's September issue on the poor management of sterile fire areas in blocks of flats.

Ali is also contributing a feature on sprinklers in schools around the ongoing proposals to hopefully amend BB100 for the November issue of Fire Safety Matters.



All details of these and other articles are posted regularly on our LinkedIn and X (formerly known as Twitter) feeds – so do make sure you follow us.

**in** [company/bafsa-british-automatic-fire-sprinkler-association](https://www.linkedin.com/company/bafsa-british-automatic-fire-sprinkler-association)  
**X** [@BAFSAfocus](https://twitter.com/BAFSAfocus)

## Amendments to the Fire Safety Order

New fire safety legislation that gives additional duties for responsible persons in businesses and building owners has come into force.

From October 1, amendments to the Fire Safety Order, the primary fire safety legislation in England and Wales, took effect. These amendments are set out in section 156 of the Building Safety Act and include some key changes for those with a business and owners of buildings.

The main changes introduced by the legislation are:

- The requirement for a written fire risk assessment and fire safety arrangements
- Enhanced requirements for cooperation and coordination of fire safety measures
- Provision of information on fire safety to residents

Further information can be obtained from: [www.gov.uk](http://www.gov.uk)



## Ireland tall building proposal

Stormont's Dept of Finance has made a proposal that all new apartment buildings in Northern Ireland above 11m tall could require sprinkler systems. The proposal forms part of a consultation on updating building regulations and would bring Northern Ireland into line with the rest of the UK. An 11m-tall building would typically consist of five storeys.





## Ali Perry joins BSR Competence Committee

BAFSA's chief executive Ali Perry joins two other fire industry representatives on the Building Safety Regulators new Industry Competence Committee (ICC) namely, Nick Coombe from the National Fire Chiefs Council and Dennis Davis from the Fire Sector Federation.

The Committee has been set up to support the work of the Building Safety Regulator to provide insights and guidance from industry stakeholders to help facilitate an improvement

in competence levels for those working in the built environment sector.

The ICC will have a role in advising both the built environment industry and the Building Safety Regulator within HSE on matters of competence. Its formation is a requirement of the Building Safety Act 2022.

This requirement came out of lessons from the Grenfell Tower tragedy and Dame Judith Hackitt's 'Building a Safer Future review of

building regulations and fire safety. A lack of skills, knowledge and experience across industry was identified as contributing to poor safety and standards in buildings.

Further details on the role of the ICC and its committee members can be found here: <https://buildingsafety.campaign.gov.uk/making-buildings-safer/building-safety-regulator-news/bsrs-new-industry-competence-committee/>

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# The Cameron House Hotel fire



## A case study in managing fire safety in a heritage building by Stewart Kidd



The Cameron House Hotel is a luxury hotel on the shores of Loch Lomond consisting of the original B-graded structure of the 19th century building and several modern extensions. On 18 December 2017 a serious fire destroyed much of the older part of the house and killed two guests. Subsequently the damaged portions of the property were reconstructed and fitted with an automatic fire suppression system.

It has long been recognised that hotels present a special risk in terms of fire and life safety.

Many of the greatest death tolls in fires internationally have resulted from fires in hotels. Fires in hotels and similar sleeping accommodation have been subject to special controls in the UK for many years – these being finally codified in the Regulatory Reform (Fire Safety) Order 2005 and the Scottish and NI equivalent.

In fact, the Fire Precautions Act 1971 was almost certainly introduced as a result of public concern following the fire at the Rose & Crown, Saffron Walden on 26 December 1969 which killed 11 people. There have been no further very large life loss UK hotel fires in the past 50 years compared with other countries (Box 1) (Box 2).

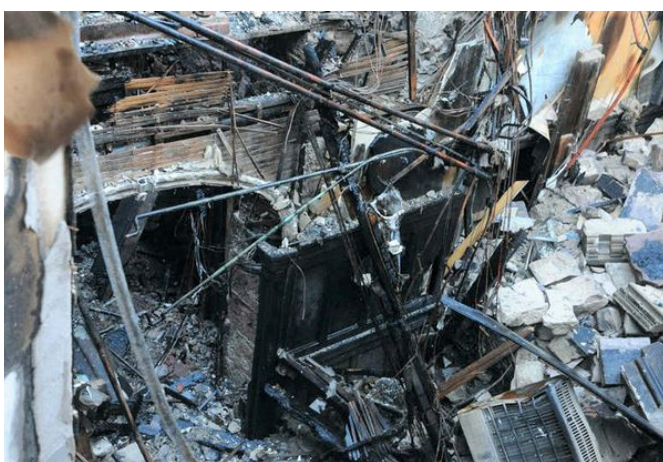
### Box 1 Major International Fatal Hotel Fires

1971	Daeyeonggak Hotel	164 deaths
1977	Hotel Rossiya	45 deaths
1979	Hotel Corona de Aragon	72 deaths
1980	MGM Grand	85 deaths
1986	Siddharth Continental	38 deaths
1986	Dupont Plaza Hotel	98 deaths
2003	Moscow Student Hotel	36 deaths
2005	Paris Opera Hotel	24 deaths
2009	Kamien Pomorski Hotel	21 deaths

### Box 2. UK Fatal Hotel Fires

1969	Rose and Crown, Saffron Walden	11 deaths
2004	Fairlawn Hotel, Edgbaston	4 deaths
2007	Penhallow Hotel	3 deaths
2017	Cameron House Hotel	2 Deaths
2023	New County Hotel, Perth	3 deaths





Home Office 2022/23 data for hotel fires in England records a total of 587 primary fires in ‘Hotels, boarding houses, hostels etc.’ with two fatalities and 83 non-fatal casualties. By comparison, Scotland records 146 fires in similar categories, but for a slightly different timescale.

While there have been several serious fires resulting in the virtual destruction of quite modern hotels – for example, the 2019 fires in the Holiday Inn, Willenhall and the Premier Inn, Bristol, there was no loss of life in either fire.

**REASONS FOR CONCERN**

The reasons why the potential for large scale life loss is a concern in hotels is implicit in their function and operation. If we consider the key life risk factors for all buildings as set out in Government guidance, it is clear that all the prescribed factors are likely to be present. (Box 3)

**Box 3 Fire Risk Assessment Guidance – persons at risk**

- The old and the very young
- Persons not familiar with the premises
- People asleep
- People with disabilities
- Those who might have language issues
- People in large numbers
- Those working alone or in remote places

In the case of heritage or historic buildings the usual FRA criteria should be augmented by consideration of the heritage, aesthetic and cultural value of the property and its contents as well as factoring in the impact of firefighting activities. In the case of older buildings, special attention needs to be paid to the potential problems of structure and materials. Fires spread more easily where there is insufficient compartmentation and where there are unstopped shafts, ducts, voids and flues. The age of the building will usually determine its type of construction and the inherent fire risk and fuel load.

**FIRE SAFETY PLANNING**

Managing fire safety is not onerous and does not require specialist knowledge (although access to professional advice for larger or more complex premises will be useful). Most larger properties will utilise the services of a specialist to undertake the necessary fire risk assessment (FRA) The following sets out the criteria to be adopted when managing fire risks:

- The premises should have a written fire safety policy. Effective internal mechanisms should exist to ensure that the policy takes account of the needs of special or occasional events and the needs of persons with disabilities.
- The hotel should appoint an individual at senior level as fire safety manager with specific responsibility to implement the fire safety policy.
- In larger establishments, the fire safety manager may be assisted by a full-time, specialist, fire officer. This role may be combined with a similar activity such as health and safety or security.
- The hotel should develop and maintain a manual setting out fire safety strategy and detailing plans for action in case of fire to be used as a basis for training. The premises should also maintain a logbook to record all fire-related events such as training, drills, inspections and equipment maintenance.
- All hotels must undertake a fire risk assessment (FRA) in compliance with fire legislation. The FRA should be reviewed not less than annually or when any major changes of layout or organisation take place. While the preparation of the FRA can be outsourced to a suitably qualified specialist, the responsibility for the implementation of any findings remains with the owner or manager.
- The testing and maintenance of a reliable fire detection and alarm system should be seen as a high priority.
- Following the completion of the fire risk assessment, management should establish a priority for implementation of necessary fire safety improvements including establishing or upgrading fire compartments, segregation of areas of high fire risk and providing protected escape routes. Consideration should also be given to the provision of an automatic fire suppression system should this not already be in place.
- Systematic and effective training programmes should be introduced to ensure that all staff know how to minimise fire risks, how to raise the alarm in case of fire and to provide enough trained staff to tackle incipient fires quickly and evacuate guests.
- A programme of liaison with the local fire and rescue service should be established to ensure that not only are local firefighters familiar with the premises but also that access and facilities such as water supplies are maintained.
- Clear fire safety requirements should be included in all contracts for building, maintenance and other work and for special events. Management must check to ensure that the requirements are being carried out. This is an area where insurance brokers or underwriters can provide expertise.

### HERITAGE BUILDINGS: PUBLIC DOMAIN GUIDANCE

The weaknesses of some heritage buildings and the specific causes of the Cameron House Hotel fire are covered in several publicly accessible guides. Most specifically, in Historic (Environment) Scotland Technical Advice Note No. 28: Fire Safety Management in Heritage Buildings can be found:

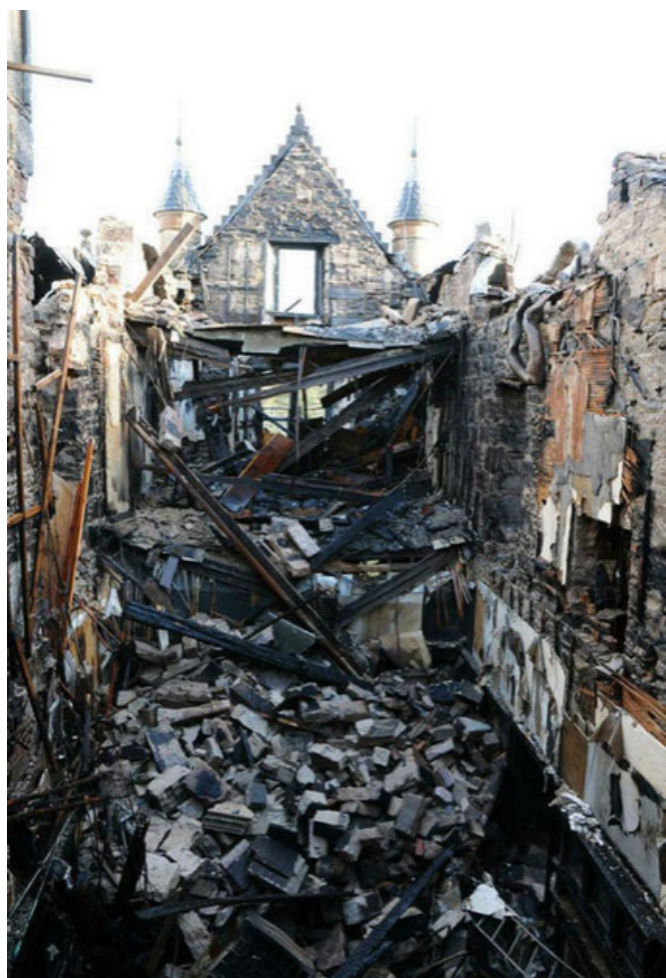
*3.1 Routine Inspections, check lists and hazard spotting  
Ashes from open fires removed from the building in steel container with lid and disposed of safely*

Similar advice can be found in other guidance from the Fire Protection Association and insurers.

Identification of the need to fire stop or compartment historic buildings which are being converted to new uses is covered in great detail in Historic Environment Scotland's Guide for Practitioners #6 and #7. Guide #6 provides in-depth data on how traditional buildings can be converted to new uses in compliance with Scottish Building Standards. Guide #7 covers, in some detail, deficiencies in fire separation and how fire suppression systems can be retrofitted.

### THE FIRE ON 18 DECEMBER 2017

Unusually, the causes, spread and impact of the fire are well documented as a result of the SFRS investigation mandated by Sherriff Thomas McCartney under the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016 .



Quoting directly from the Sherriff's findings, the two deaths resulted from:

*"...a fire which began in the concierge cupboard of the Hotel, as a result of hot embers within ash igniting combustibles within said cupboard. The fire spread from the cupboard through voids and cavities in the structure of the building and escaped into the reception area once the door to the cupboard had been opened, thus causing fire and smoke and fire gases to spread extensively throughout the old part of the Hotel".*

The proximate cause of the fire was therefore:

- Careless disposal of hot ash ie, the removal of hot ashes from open fires in the hotel as part of cleaning them; exacerbated by:
- The presence and impact of hidden voids allowing easy and rapid fire and smoke spread.

### FIRE RISK ASSESSMENTS AND FRS INSPECTIONS PRIOR TO THE FIRE

**FRA: January 2016:** This included a recommendation for a written policy to cover handling hot ash from ovens and fires: *"hot ashes must be transferred to a metal container and wetted down and that the metal container should be kept away from combustibles until the refuse was hauled away".*

The hotel responded by preparing a policy, but this was not shared with staff and no written procedure for handling ash was issued.

**FRA: January 2017:** The assessment noted that no action had been taken in respect of open fires. The hotel claimed that the statement was inaccurate, and the assessor modified the FRA without verifying the hotel's actual response.

**SFRS Inspection: 22 August 2017:** The Scottish Fire and Rescue Service undertook an inspection and submitted a report with several recommendations inter alia:

The practice of storing combustibles in the concierge cupboard was highlighted as a risk, specifying the possibility of electrical ignition of the combustibles and rapid fire spread due to voids etc.

The resort director was informed that the practice was unacceptable, and an assurance received by SFRS that this issue would be rectified.

An email from the Resort Director to managers referencing the SFRS visit did not mention the risk of fire spread or damagers of stored combustibles and only required the *"Concierge cupboard to be tidied and holes filled"*.

### THE BENEFIT OF AUTOMATIC FIRE SUPPRESSION SYSTEMS

There can be no doubt that the installation of automatic fire suppression systems is an effective method of protecting life and property in hotels.

This was recognised in Sherriff McCartney's Report which included the recommendation that:

- The Scottish Government should consider introducing for future conversions of historic buildings to be used as hotel accommodation, a requirement to have active fire suppression systems installed.
- The Scottish Government should constitute an expert working group to more fully explore the special risks which existing hotels and similar premises may pose through the presence of hidden cavities or voids, varying standards of workmanship, age, and the variance from current standards and to consider revising the guidance provided by the Scottish Government and others".



It's worth noting that within his Section 26(1)(b) observations regarding fire suppression, Sherriff McCartney went so far as to suggest that: "Given the potential added fire protection provided by an active fire suppression system, if such installation was said to be impossible or impractical in specific premises, it may be that such premises are simply not suitable as hotel accommodation."

The Scottish Government has agreed to set up a working group to consider whether and how Building Standards should be amended to require fire suppression systems in certain hotel and at the time of writing this was in the process of being established.

**LIABILITY ISSUES AND OTHER COSTS**

The cost of the reconstruction of the hotel was £25.8 million and the property was closed for four years after the fire. The hotel was fined £500,000 for contraventions of the Fire (Scotland) Act 2005. The action was taken 'over a needless hotel fire after the fire service had warned it of unacceptable risks'. The Sherriff said that the fine would have been £750,000 had there not been an early guilty plea.

The hotel's night porter was sentenced to 300 hours of unpaid work for breaching the Health and Safety at Work Act 1974.

Several guests and relatives of the deceased have reported PTSD and anxieties following the fire, but it is not known whether any civil litigation or out of court settlements have followed. Based on previous civil claims for trauma occasioned by guests in fires in hotels (eg following the Penhallow Hotel) it's likely that any such claim would be hard to defend given the circumstances of the fire.

The fact that no manager or senior staff member was prosecuted denies observers the opportunity to see whether a custodial sentence for the fire might have been imposed because of the fatalities.

**CONCLUSIONS**

There was nothing exceptional about the cause of this fire or the reasons for its spread, which was predictable and the resultant fatalities. Hotel fires are not rare, but fatalities are not frequent in the UK.

What is perhaps exceptional, is that the operators of the premises (the 'duty holders' under Scots Law) had been told twice of the risks of fires resulting from common practices in the building and had the structural defects clearly identified for them. Even if there still had been any doubt about the presence of hazards, a thorough report from the fire authority identified the deficiencies and defects and set out necessary remedial action.



The impact of the fire on the hotel itself was significant in terms of loss of business for four years and substantial costs of rebuilding – although it's not clear to what extent the costs were cushioned by insurance. Reputational impact was inevitable and there will inevitably also have been some emotional distress suffered by staff, especially those on duty at the time of the fire. However, it is somewhat satisfying that the reconstruction includes an automatic fire suppression system.

Sherriff McCartney references the undoubted benefits of automatic fire suppression systems several times in his report and several of the witnesses examined suggested that such protection should have been incorporated into the building at the time of its conversion into a hotel.

The Sherriff was clearly impressed by these suggestions as he included in his report recommendations that where conversions of historic buildings are to be used as hotel accommodation, they should have an active fire suppression system installed.

Another future benefit from this tragedy is a further recommendation that:

*"The Scottish Government should constitute an expert working group to more fully explore the special risks which existing hotels and similar premises may pose through the presence of hidden cavities or voids, varying standards of workmanship, age, and the variance from current standards and to consider revising the guidance provided by the Scottish Government and others".*

This advice must surely have been reinforced by the fatal fire at the New County Hotel, Perth on 2 January 2023 which killed three guests and a much-loved pet dog and injured 11 others.



# South Yorkshire Fire & Rescue Service BAFSA seminar day



**South Yorkshire  
FIRE & RESCUE**

**BAFSA teamed up with South Yorkshire Fire & Rescue Service in September to host a seminar on fire safety at SYFRS's Training Centre in Sheffield. The day saw presentations from SYFRS staff along with BAFSA team members**

**“We must continue to advocate the inclusion of fire suppression systems during construction and renovation of premises that are vulnerable to fire.”**

These are the words of Chris Kirby Chief Fire Officer of SYFRS who welcomed attendees to a joint BAFSA and SYFRS seminar at their fire service training centre on 26th September.

BAFSA and SYFRS have a close connection having previously worked together on the Callow Mount project where a high-rise building in Sheffield was used to demonstrate the actual cost of retrofitting sprinklers and a series of other sprinkler retrofit projects, including care homes, high and low rise dwellings and other buildings. SYFR and SYFRA still invest significant amounts of its reserves into funding to support the retrofitting of sprinkler systems in premises that are occupied by vulnerable people.



This was illustrated by SYFRS sprinkler advocate, Roger Brayson, where he detailed the range of buildings the SYFRS fund has helped make safer. The best evidence of the need for sprinklers is obviously demonstrated by real incidents and a timeline of a recent fire that had broken out at local fibreglass production business was used by Roger to show the real impact and cost of an incident in an un-sprinklered building. As Roger pointed out, “this was a relatively simple fire,” and yet the incident which ran for 3.40 minutes had a big impact in terms of cost to fire, police and ambulance services, as well as the train network which had to be closed while the fire was being brought under control. The business affected went into liquidation following the fire which gutted the premises. The total financial cost to SYFRS was in the region of £30,000. Luckily the building next door to the warehouse concerned was fitted with sprinklers.

Following this, BAFSA's chief executive, Ali Perry, brought everyone up to date on current position across the respective home nations in regards to sprinklers and in particular BB100: fire safety design for schools, the consultation on which has still not been released. Although Ali pointed out that it is anticipated that there is likely to be a dilution of requirements.



BAFSA has submitted evidence along with NFCC to Government in regards to the consultation, along with other stakeholders such as Zurich Insurance and the Chartered Institute of Building.

This was something that was picked up on by Fire Chief Chris Kirby. He said: “More can be done and more needs to be done – so the voice of this association is an important one,” adding, “Every new school that is constructed or renovated without fire suppression systems is a missed opportunity to provide vital protection to vital buildings.”

Nick Coleshill, BAFSA’s sprinkler ambassador who helped compile evidence of the need for sprinklers in schools gave a general overview of the importance of reporting sprinkler saves to the Sprinkler Saves UK website, which is currently the only website that logs examples of where sprinklers have been activated and as a result, contained and controlled fires.

Ali went on to talk about some of the additional challenges facing the fire safety industry – particularly in regards to construction, where he said the pace of innovation is ahead of safety. He added there was a need for change in building regulations to recognise that methods of modern construction

and lightweight construction need to be supported by fire safety systems. “This is fundamental if a building is to survive a fire.”

He also pointed out, there are also issues within Building Control itself, whereby many local authorities no longer have building control officers in place – yet the building and construction continues with no one to independently check. Ali added that trade bodies such as BAFSA now have a key role going forward in making sure that those who are involved in fire suppression system installation are competent to do so.

On the issue of building safety, SYFRS’s Steve Massey looked at the legislative framework and the changes coming into play with the Regulatory Reform of the Fire Safety Order (2005) and the Building Safety Act and the scope of the new changes when it comes to fire safety.

Finally, BAFSA’s technical advisor Joe McCafferty talked through the importance of thirty party certification in regard to fire sprinkler installation and also gave a highly practical talk on what to look for when inspecting a sprinkler system which ran through the main checks that need to be carried out on residential sprinkler systems, including sprinkler head checks, water flow alarm switches and also understanding what keeps a Certificate of Compliance valid.





# Ask Joe



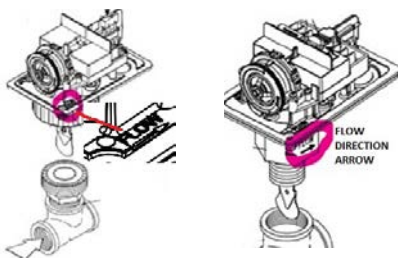
**If you have any questions relating to sprinklers then BAFSA's technical advisor, Joe McCafferty, is the man most likely to be able to answer them. Here he details some of the most interesting queries he has received over the last few months.**

**Question: We have four buildings on one site. Can we use a single water supply source, ie water tank and two pumps to supply all four buildings? Would it be advantageous to use three half duty pumps instead?**

**Answer:** It is acceptable to use one water supply source to supply the sprinklers in all four buildings. Have a separate Sprinkler Alarm Valve for each building, this allows for maintenance without taking all sprinkler systems off-line. Three half duty pumps are acceptable. Even though one water storage tank is acceptable, we would suggest that you use two half capacity water tanks which will give a lot more flexibility when servicing is being done and will keep all the sprinkler installations 'live' during maintenance.

**Question: How can we tell if a water flow switch is fitted in the right direction on a domestic sprinkler system?**

**Answer:** Sprinkler flow switches will have a direction arrow marked on the unit. It may be stamped on the inside of the protective cover or on the metal body externally, as shown in these two examples.



**Question: During a recent fire risk audit we were told that our dry riser inlet boxes must be painted red. Can you advise if this is a strict requirement please?**

**Answer:** BS 9990 does not mention a specific colour, but we are used to seeing the commonly used red colour on most buildings. Looking at some of the main suppliers' websites these boxes come in a few different finishes including stainless steel and some mention 'bespoke' finish that may fit in with the building brickwork/finish. BS 5041-5 is the standard for the box construction.

**Question: Do isolating valves on wet and dry fire mains have to be electrically monitored or just secured with a chain and padlock?**

**Answer:** Even though BS 9990:2015 does not specifically state that all isolating valves require any special attention the criteria mentioned in para. 4.1 Design Considerations is very good advice that should not be ignored. 'Such valves should be secured in the open position by a chain and padlock or incorporated within a monitoring system to indicate when the valve is not fully open.' Isolating valves must be secured open and should at the very least have chain and padlock.

**Question: Should the sprinkler system installing company be providing the means of locking isolating valves on a domestic or residential sprinkler system? Do you have any guidance, or specifications, for how the valve should be locked?**



**Answer:** The sprinkler installer should be providing these locks to comply with BS 9251. It's such a trivial expense in the overall cost of a job, and in my experience the installer has always supplied and fitted them. Locks are available that have a common key that can be used for all locks on the site. This is a picture of one that is commonly installed on residential systems. The locking mechanism is very simple but effective against tampering.

**Question: What is the sprinkler head minimum distance from lights, smoke detectors and other obstructions at ceiling level for domestic properties.**

**Answer:** This is what it states in BS 9251 sprinkler design standard for sprinklers: 'sprinklers should be positioned such that the sensitivity and discharge pattern are not adversely affected by obstructions, such as constructional beams, smoke alarms, light fittings or other sprinkler heads (refer to manufacturer's instructions for guidance).' Most residential/domestic sprinkler manufacturers have data sheets for the installation process for their heads. In these data sheets they specify clearances from obstructions like lights etc. In the data sheets



they usually always show clearances from structural beams and the same rules would apply to all other obstructions at ceiling level.

**Question: We have been asked to provide a safe protected route to our sprinkler pump-room which is inside the building. Is this a requirement of the sprinkler rules?**

Answer: In BS EN 12845 Sprinkler Rules it does not specifically mention the term 'protected route', but it states some specific requirements for sprinkler pump-room location as follows:

'10.3 Compartments for pumpsets.

10.3.1 General. Pumpsets shall be housed in a compartment having a fire resistance of no less than 60 min, used for no other purpose than fire protection. It shall be one of the following (in order of preference): a) a separate building; b) a building adjacent to a sprinkler protected building with direct access from outside; c) a compartment within a sprinkler protected building with direct access from outside.'

**Question: In BS 9251 it mentions that bathrooms with a floor area of more than 5m<sup>2</sup> must be sprinkler protected. Does the space taken up by the bath have to be**

**included or does it mean only the floor area that you can walk on?**

Answer: It is our opinion that the 5m<sup>2</sup> area is the full room wall to wall at floor level (ie wall to wall behind the skirting boards), regardless of the content. The same as we would treat any room that has fixed benches, columns and machinery etc.

**Question: Can you advise me where I can contact a company that we could use for emergency callouts if we have problems with our sprinkler system?**

Answer: All our BAFSA members will have emergency call-out included as part of their 3rd party accreditation agreement. Here is an example from the largest 3rd party scheme document (LPS 1048:2015). "3.11 Emergency Service: The Contractor will provide an effective 24-hour emergency service for customers to ensure that appropriate remedial action can be undertaken on site within 24 hours. Service and maintenance engineers are to have access to a sufficient range of approved spare parts to resolve emergency call-out situations.'

So, you can be rest assured that should you select a BAFSA member, they will have emergency call-out capabilities.

**Question: Is there a fire detection / fire suppression system available that provides protection for the tanks that contain highly flammable fuel like kerosene and fuel oil? The tanks are outside and close to each other.**

Answer: The protection required for this type of fire hazard is referred to in the sprinkler industry as 'special risk' and many of our BAFSA members can do this type of specialised work. You can get in touch with our members via the BAFSA website (<https://www.bafsa.org.uk/find/>) and they will be able to give you advice on the best protection.

If you want to submit a query to Joe visit the BAFSA website at [www.bafsa.org.uk](http://www.bafsa.org.uk) and click on the link on the contact page – [www.bafsa.org.uk/contact-us/ask-bafsa/](http://www.bafsa.org.uk/contact-us/ask-bafsa/)



# Sprinklers protect our heritage from fire

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British Automatic Fire Sprinkler Association

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# Showing your credentials



**BAFSA's Skills and Qualifications advisor, Ruth Oliver, provides an overview of the SKILLcard's now available to those in the fire sprinkler sector and how to obtain them**

SKILLcard is the industry recognised smart card for the mechanical sector of the building engineering services industry and partner to the construction skills certification scheme. It provides the best personnel registration and card issuing solution in the UK by giving proof of identification, as well as training and qualifications and on site health and safety, by demonstrating that workers have the right training and qualifications for the job. There are over 55,000 SKILLcards in circulation and 12 different types of card available, dependent upon job role and qualifications.

BAFSA has worked closely with SKILLcard over several years to achieve a measured and planned implementation of SKILLcards. We have now developed a comprehensive qualification route which allow fire sprinkler installers, designers and those involved in inspection and commissioning of fire sprinkler systems to demonstrate their competence via an accredited training programme.

**WHAT SKILLCARDS ARE AVAILABLE TO THE FIRE SPRINKLER SECTOR?**

A Red Trainee Card is available to those working as ‘trainees’ in the fire sprinkler installer sector. This card is for new entrant trainees who have no prior experience and are enrolled on the Level 2 Certificate in Fire Sprinkler Installation qualification. This card is valid for one year and is non-renewable. It can be upgraded to the Skilled Worker Blue Card when the Level 2 Certificate in Fire Sprinkler Installation qualification is achieved.

A Green (Mate) Card is available to those carrying out basic site work only. This card does not allow the holder to assist with the physical installation of fire sprinkler systems. These card holders must be working with qualified skilled workers and a ratio of 4:1 (Green Mates: Blue Skilled worker) applies. The card will display ‘Fire Sprinkler Installers Mate’ on the reverse.

A Blue Skilled Worker Card – ‘Fire Sprinkler Installer’ is available to those experienced workers who hold the competency based qualification, Level 2 Certificate in Fire Sprinkler Installation. Applicants for this card are also required to hold a HSE certificate.

A Blue Skilled Worker Card – ‘Inspection & Commissioning of Fire Sprinkler Systems’ (Commercial) is available to those workers who have successfully completed and achieved the BAFSA Inspection & Commissioning course. Applicants for this card are also required to hold an SMSTS or SSSTS certificate.

A Gold (Supervisor) Card \* is available for the following supervisory occupations:

- Team Leader
- Building Services Engineer Supervisor (previously Firstline Supervisor)
- Junior/Assistant Project Engineer (who has completed a Student Apprenticeship)
- Building Services Technician (previously Senior Commissioning Engineer)

*\*To qualify for a Gold (Supervisory) Card, applicants will need to undertake a recognised short course in supervisory management. For details of courses that will satisfy this requirement please contact the SKILLcard Helpdesk on 01768 860406. Examples include, Site Supervisors Safety Training Scheme (SSSTS), Site Managers Safety Training Scheme (SMSTS), IOSH Managing Safely. For the statements of competences to be used in industry.*

A Black Managers Skill Card - ‘Design of Fire Sprinkler Systems (Domestic & Residential)’ is available to those workers who have successfully completed and achieved the SQA Residential & Domestic Fire Sprinkler Design Certificate. Applicants for this card are also required to hold an SMSTS certificate.

**WHY DO I NEED TO HOLD A HEALTH AND SAFETY ENVIRONMENT TEST CERTIFICATE?**

The BESA Academy Health and Safety Environment test or the CITB H&E test is the main way to satisfy the Health and Safety requirements of SKILLcard. The test is designed to give everybody working on site a minimum level of Health and Safety awareness, although there are a few exceptions. BESA H&SE test cannot be used for gold or black cards.

You are unable to apply for a SKILLcard without a valid Health and Safety certification.

**HOW CAN I VERIFY AN EXISTING SKILLCARD?**

The CSCS Smart Check app is now live allowing all 2.1 million cards in the construction industry displaying the CSCS logo to be electronically verified using a single app. SKILLcard has been one of the 38 schemes involved with developing the app which will radically improve the construction industry’s card checking procedures and site safety

while also helping tackle fraud in the sector. Organisations and their on-site card checkers will now have a quick, easy and secure way of ensuring everyone on site has the right qualifications and training for the job they do, with the free app available for Apple iOS and Android devices.

SKILLcard is a partner of the pan-industry Construction Skills Certification Scheme (CSCS). The terms of the partnership ensures that SKILLcard complies with the requirements of CSCS. There is no need, therefore, for separate registration with CSCS.

**WHAT HAPPENED TO CONSTRUCTION RELATED OCCUPATIONS (CRO) SKILLCARD?**

SKILLcard stopped accepting new applications for CRO cards in June 2019. The phase out of CRO cards has happened to deliver the Construction Leadership Council’s (CLC) 2025 vision. As a result card schemes carrying the CSCS logo including SKILLcard, must only certify occupations with nationally recognised construction related qualifications.



**The benefits of SKILLcard**

Many construction and site managers request that their workers hold a SKILLcard before coming on site. As well as confirmation of your profession, SKILLcard aims to provide you with the following benefits:

- access to many construction sites
- industry-wide recognition of your skills, competence and qualifications
- improved knowledge and awareness of workplace health and safety
- enhanced employment prospects

**HOW MUCH DOES A SKILLCARD COST?**

The trainee card is FREE. All other SKILLcard’s cost £40.00 exc VAT.

**HOW DO I APPLY?**

Applications for SKILLcards are via an online platform on the SKILLcard website [www.skillcard.org.uk/how-to-apply](http://www.skillcard.org.uk/how-to-apply)

For further information the on Fire Sprinkler Installer SKILLcards visit: [www.skillcard.org.uk/find-the-right-card-for-you/](http://www.skillcard.org.uk/find-the-right-card-for-you/)

To apply, renew or replace a SKILLcard visit [www.skillcard.org.uk/how-to-apply](http://www.skillcard.org.uk/how-to-apply)

To check a card please visit [www.skillcard.org.uk/check-a-card](http://www.skillcard.org.uk/check-a-card)

For information on accessing training to support the above cards please contact [qualifications@bafsa.org.uk](mailto:qualifications@bafsa.org.uk) or visit [www.bafsa.org.uk](http://www.bafsa.org.uk)



# All about



**BAFSA Focus speaks to Edith Devoy, director of operations for ABBE, BAFSA's new course qualification awarding body to find out a bit more about the organisation**

**Tell us a little bit about ABBE?**

ABBE is regulated by Ofqual for a range of qualifications. Our qualifications are nationally recognised helping learners to achieve their full potential and ambitions. ABBE was established in 1997 offering qualifications in the building and construction industry.

As an Awarding Organisation, ABBE's role is to develop qualifications and assessments which are valid and reliable and are responsive to customer needs.

We approve colleges and training providers to deliver our qualifications, we set assessments and issue certificates to successful learners. Our expertise lies in developing qualifications that are vocational in nature and which complement work based learning and licence to practice 'pre' learning.

The qualifications that ABBE offer are suitable for preparing to work in a sector, for starting your career and/or for professional development. We have developed considerable expertise in overseeing high quality assessment for qualifications ranging from level 1 to level 6 covering a variety of disciplines and a range of areas.

**Talk us through the checks you make with a course deliverer to ensure that the course is fit for purpose?**

ABBE approves colleges, professional bodies and training providers to deliver our qualifications. We refer to these as ABBE Accredited Centres. Gaining ABBE Accredited Centre approval is a rigorous process, we need to ensure that those delivering our qualifications have the expertise and resources to do so. Our review of centres is comprehensive and includes a review of the abilities of the centre's personnel, the resources available and the approaches taken for assessment and learner support.

**What happens once a student completes an ABBE certified course?**

Once a learner successfully completes the full requirements of a qualification, they receive the ABBE Qualification Certificate.

**Why is it important for those working in the fire safety sector to have qualifications?**

Qualification requirements for the fire sector have not yet been set as mandatory by Government. However, we can state that the benefits of achieving a qualification that is designed and delivered by sector experts gives learners the opportunity to receive recognition of their studies and to receive a recognised and accredited qualification.

*For more information visit [www.abbeqa.co.uk](http://www.abbeqa.co.uk)*



## BAFSA sprinkler system course dates 2023/24

**2023**

- 13 November  
BAFSA FHC Design (Commercial) four-day course (remote learning)
- 11 December  
BAFSA Basic Design (Commercial) five-day course (remote learning)

**2024**

- 11 March  
BAFSA Basic Design (Commercial) five-day course (remote learning)
- 20 March  
BAFSA Inspection & Commissioning (Commercial) three-day course (London)
- 25 March  
BAFSA Inspection & Commissioning (Commercial) three-day course (Manchester)
- 15 April  
BAFSA FHC Design (Commercial) four-day course (remote learning)
- 7 May  
BAFSA Inspection & Commissioning (Commercial) three-day course (East Kilbride)
- 13 May  
BAFSA Basic Design (Commercial) five-course (remote learning)

BAFSA Level 2 Certificate in Fire Sprinkler Installation – A blended learning course with no fixed term or start dates. Course to be completed within six months of enrolment.

**For further details, course content and costs, visit the BAFSA Training Centre at [www.bafsa.org.uk/booking/](http://www.bafsa.org.uk/booking/)**





# The BAFSA Training Centre

Boost your qualifications and demonstrate your competence with BASFA's range of fire sprinkler training courses covering everything from inspection to installation

Available courses:

## The L2 Certificate in Fire Sprinkler Installation

A blended learning programme that covers health & safety, maintaining compliance and residential and commercial installation. This qualification is part of the requirement for the Industry Skillcard – Fire Sprinkler Installer Blue Skilled Worker Card.

Sprinkler system design courses:

## The BAFSA Basic Design Course (Commercial)

A five-day online course covering classification of systems, storage types and categories, water supplies spacing and location of sprinklers and component selection.

## The BAFSA Intermediate Design Course (Commercial)

A two-day online course that covers zoning of systems, water supplies, alarms and hydraulic calculation for high-rise buildings.

## The BAFSA FHC Design Course (Commercial)

A four-day course following on from the basic and intermediate design course which covers sprinkler designs which use the fully hydraulically calculated (FHC) method of pipe sizing and water supply selection.

## The BAFSA Inspection & Commissioning Course (Commercial)

A three-day course which relates to the inspection and commissioning of commercial

fire sprinkler system design in accordance with the LPC Rules, including BS EN 12845. This qualification is part of the requirement for the Industry Skillcard – Fire Sprinkler Engineer (Commercial) Blue Skilled Worker card.

Visit [www.bafsa.org.uk/booking/](http://www.bafsa.org.uk/booking/) for further information, course fees and enrolment details

British Automatic Fire Sprinkler Association  
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# Lessons to be learned



Ritchie O'Connell wonders why a government that is so focused on school attendance is still playing with fire when it comes to amending BB100



If you visit the Department of Education website you'll see that if your child misses school, then as a parent, you can face serious consequences. In some cases, you could be prosecuted with fines up to £2,500, or even a three-month jail term.

Serious stuff then, and in a *VERY* rare departure from the norm, I have to say that by and large, I agree. There is plenty of evidence to show a strong correlation between school absence and reduced educational attainment<sup>1</sup>. But this is nothing new and most of us don't even need to reference academic studies to demonstrate the link between absence and under attainment - it's pretty obvious.

It would also seem obvious to the governments of the devolved administrations who have taken a different stance to the Westminster government when it comes to sprinklers. In Scotland sprinklers are mandatory in all new schools, whilst in Wales sprinklers are required where grant funding is being provided for the investment in new school buildings or significant refurbishment.

We are all very aware of the recent prolonged partial or full closure of schools due to the presence of Reinforced Autoclaved Aerated Concrete (RAAC). This has not only affected students, it also has had a huge impact on other community groups who may use school premises. Yet this level of disruption is not dissimilar to that caused by even a minor fire in a school and yet, at every opportunity, the UK Government fails to legislate to increase the resilience of school buildings when exposed to fire. In their response to the consultation on the



review of BB100<sup>2</sup>, the National Association of Head Teachers (NAHT) stated:

*"Aside from the financial impact, school fires have also been shown to have a significant impact on the social and emotional experiences of pupils, staff and the wider community as well as on teaching and learning in the affected schools. The long-term disruption that follows puts staff and pupils under stress and imposes large financial, educational and administrative costs. Previous statistics on UK school fires have reported that they disrupt the education of an estimated 90,000 children and students annually."*

School fires in England are up on previous years, with an increase in both deliberate and accidental fires. With accidental fires

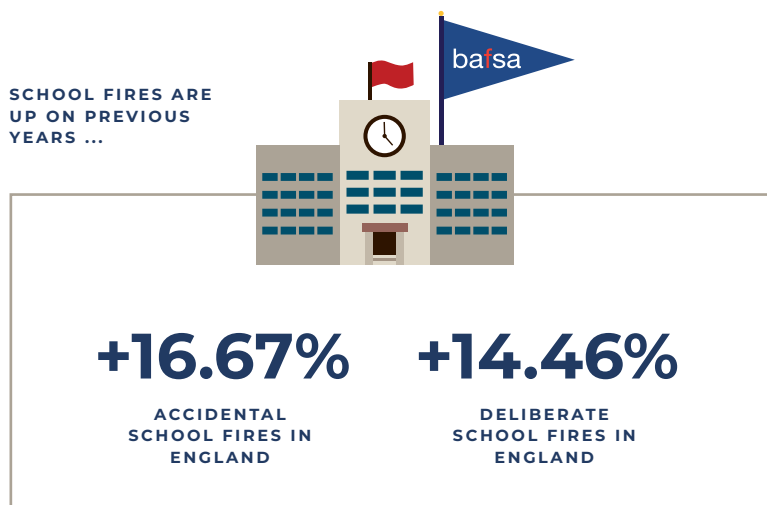
increasing by 16.67% to 427 fires in 2022/23 and, worryingly, deliberate fires also rising by 14.46%.

So why didn't the UK Government take the opportunity of the recent review of BB100 to strengthen the requirement for automatic water suppression systems? During the consultation they received submissions from the National Fire Chiefs Council, insurers and educators. Most responses took a similar view that the recommendations did not go far enough. The Association of School and College Leaders (ASCL) made the following observation in response:

*Question 1:BB 100 recommends that automatic fire suppression systems should be installed in all new school buildings that have a storey with a finished floor level over 11m above ground level. Do you agree with this recommendation? If not, please explain why.*

*"ASCL agrees in part with this recommendation. However, our members would prefer to see the requirement extended to all new school buildings, whether or not they are above 11m. This requirement is already in place in Wales and Scotland."*

According to the Government's own data obtained via a Freedom of Information request, 248 new schools have been constructed since 2015, of which only 21 had sprinklers installed. Of the 468 major school refurbishments since 2015, only 69 had sprinklers installed. This equates to just 8.5% of new schools built since 2015 and 14.7% of majorly refurbished schools built since 2015 having sprinklers. This can hardly be described as representing 'a few low risk schools.'



1. The link between absence and attainment at KS2 and KS4 2012/13 Crown copyright 2016

2. Building Bulletin 100: fire safety design for schools

Whilst the revised document is yet to be published, the consultation document, (which in the absence of evidence to the contrary), is assumed to form the basis for the published document and falls significantly short of mandating for sprinklers in all new schools, opting instead for non-statutory guidance recommending automatic water suppression systems in:

- New school buildings that have a storey with a finished floor level over 11m above ground level
- New special schools
- New boarding accommodation

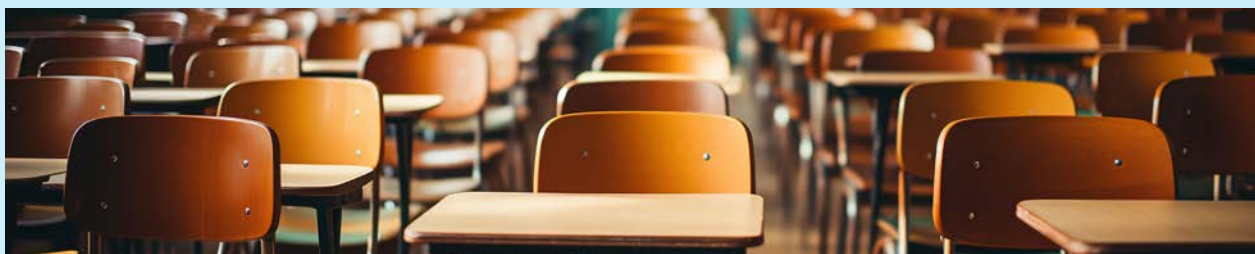
Of course, providing suppression in special schools and boarding schools is a welcome improvement, but I question how many new schools will have an occupied floor above 11m high? I suspect that a great many new schools will, (purely by coincidence you understand), now have a highest occupied floor at 10.99m high. Nothing arbitrary about it though, eh? And don't just take my word for it, the NFCC in their response to the BB100 consultation offer the following when considering the 11m recommended trigger height:

## “At every opportunity the UK Government fails to legislate to increase the resilience of school buildings when exposed to fire”

*“A recent search of planning databases by Zurich insurers showed that there are currently no schools planned that would meet this threshold, so the effects of this change are likely to be limited and appear to be a tokenistic gesture towards being able to state the consultation ‘mandates’ sprinklers and thus improves safety.”*

The consultation, if nothing changes pre-publication, represents a huge, missed

opportunity to mandate AWSS in all new schools in England. But hopefully it's not too late for the UK Government to wake up and smell the coffee. Educators, insurers and fire fighters have had their say and they have delivered a consistent message and that is that the proposals to amend BB100 do not go far enough. Sprinklers should be mandatory in all new or significantly altered schools – are you listening at the back?



## Sprinkler Saves submits report to NFCC ahead of Government decision on BB100

Ahead of the much-anticipated review of BB100 for England, BAFSA's sprinkler ambassador, Nick Coleshill, compiled a report for the NFCC to form part of the industry's case to Government to make sprinklers mandatory in all new schools in England, as they are in Scotland and Wales.

The report detailed case studies where sprinklers have actuated and had an impact at educational premises. It covered 10 school 'sprinkler saves' reported to the Sprinkler Saves UK website between November 2021 to May 2023. It also contains compound fire data focusing on 65 educational activations for the period 2018/19 to 2021/22 where sprinklers were present.

Secondary schools accounted for the highest number of incidents with half of the incidents cited as malicious with the location involving toilets or a changing room.

To read the full report visit:

[www.bafsa.org.uk/wp-content/uploads/2023/09/Reported-school-sprinkler-activations-for-NC.pdf](http://www.bafsa.org.uk/wp-content/uploads/2023/09/Reported-school-sprinkler-activations-for-NC.pdf)

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### New Rochdale Warehouse

Speaking of new warehouses... our Rochdale branch has moved to a brand new, modern, custom-built warehouse. Now our Rochdale dispatch and fabrication shop are under one roof.



### New CPVC Range

We now stock Spears FlameGuard CPVC, available exclusively to all our trade account holders. CPVC is an engineered thermoplastic material that has been fully approved for fire sprinkler applications. We also stock the fully approved clips & fixings for CPVC installations. CPVC training also available upon request.



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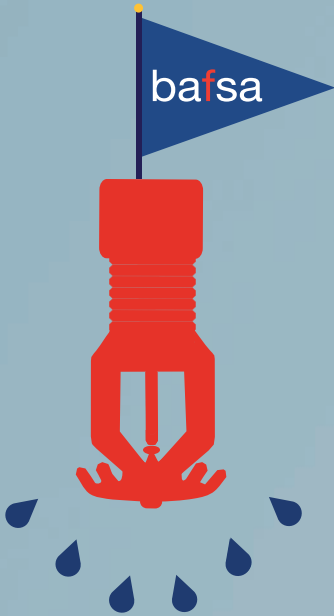
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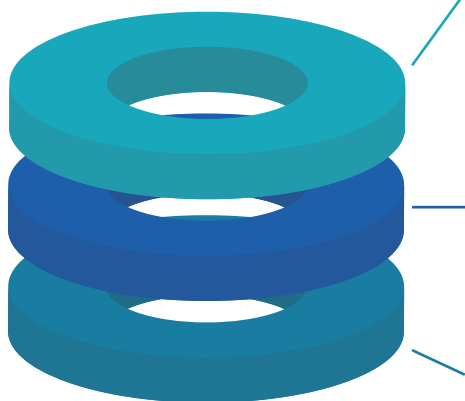
# Think Sprinkler Saves, Think Sprinkler Saves UK



It's now been just over two years since the launch of Sprinkler Saves, the UK's the only dedicated website collating, promoting sprinkler activations where sprinklers have been reported as present and making a difference. BAFSA's sprinkler ambassador Nick Coleshill looks back at what's been achieved

The objective of the Sprinkler Saves website is to demonstrate the vital role sprinklers play in fire safety arrangements by highlighting real tangible examples of where they have actuated and in doing so, saved life and property.

So, what have we achieved in this short period of time I hear you ask? To date, 143 sprinklers activations have been reported covering a variety of fire incidents involving various property types. We also published the Annual Sprinkler Saves Review, a further tool in our locker which can be used to influence change because it is the story around an incident that provides the best evidence of the benefits of fire sprinklers.



**1. Part A**

Highlighting a sample of sprinkler save case studies uploaded on to the sprinkler saves UK website.

**2. Part B**

Interrogating information, data captured and submitted from the reported fires where fire sprinklers were reported as present and having an impact.

**3. Part C**

Interrogating incident recording system data reviewing fires where fire sprinklers were reported as having an impact for the previous financial year.

Reinforcing the message that sprinklers do contain, control, and even extinguish property fires, providing powerful evidence supporting the NFCC publication *“Efficiency and Effectiveness of sprinkler systems in the UK: An Analysis from fire service data”*.

From my experience in the fire sector this publication is now used widely by fire engineers to confirm the efficiency of sprinklers and demonstrates the benefits of sprinklers for fire engineered solutions where compliance to Approved Document B cannot be achieved.

The benefit of collating sprinkler activations was recently identified following a request from the National Fire Chiefs Council for case studies involving educational

premises where sprinklers were reported as activated and having an impact. Providing further evidence to support the ongoing Building Bulletin 100 campaign, influencing government to make sprinklers mandatory in schools in England.

The outcome was an in-depth report identifying 10 case studies involving schools with compound fire data focusing on 65 educational activations for the period 2018/19 to 2021/22 where sprinklers were present and activated by floor and location. This is now available on the BAFSA website as a resource to download to influence stakeholders in the education/ construction sectors to install fire sprinklers in schools.

Moving forward your continued support, participation is paramount for the reporting of all types of Automatic Fire Suppression System (AFSS) activations. The benefit of which will allow us to reinforce our vision to those who are not converted to the benefits of fire sprinklers with the aim of making sprinklers the norm not the exception.

Thank you for your support, if you have any questions. Please contact me at nick.coleshill@bafsa.org.uk

**Across all premises types:**

- Sprinklers are 99% efficient in extinguishing or controlling a fire
- Sprinklers are 94% efficient in their ability to operate

**“From my experience in the fire sector this publication is now used widely by fire engineers to confirm the efficiency of sprinklers and demonstrates the benefits of sprinklers for fire engineered solutions where compliance to Approved Document B cannot be achieved”**

## The problem of chip pan fires

A recent chip pan fire at a premises retrofitted with a residential sprinkler system was brought under control thanks to the activation of one sidewall sprinkler head.

Fire crews from Cleveland Fire Brigade (CFB), attending the incident on the 4th October, found that the fire had been extinguished on arrival with only 5% of the property damaged by the fire.

The premises was a 12-storey block of flats built in the 1960s and thankfully the premises was retrofitted with a residential sprinkler system installed to BS9251 following a review of the fire safety of high-rise buildings completed by Stockton-on-Tees Borough Council, in response to the Grenfell tragedy in 2017.

The benefits of this decision have been demonstrated once again as this is the

second reported successful sprinkler chip pan save involving a tall building from CFB. It also demonstrated the sprinklers are effective at extinguishing chip pan fires – despite commonly circulated myths that state otherwise.

This incident also reinforces the findings of the reports published by BAFSA providing detailed analysis of compound data on fire incidents in Great Britain where sprinklers were reported over the period of 2018/19 to 20/21 focusing on purpose built blocks of flats.

The report finds that inside the flats, the kitchen as a fire start location accounted for the highest number of incidents where sprinklers were recorded as having been involved and activated. Outside the flats, refuse stores as a fire start location



*The report finds that inside the flats, the kitchen as a fire start location accounted for the highest number of incidents where sprinklers were recorded as having been involved and activated (pic courtesy Shutterstock)*

accounted for the highest number of incidents where sprinklers were recorded as having been involved and activated.

The BAFSA website has specific Fire Data Reports on sprinklers in purpose built block of flats. Visit [www.bafsa.org.uk](http://www.bafsa.org.uk) to find out more.

# Fires at recycling centres and waste sites

Two incidents from London Fire Brigade illustrate the contrasts with how a waste plant fitted with a fire suppression system plays out against one that hasn't.

In August this year for example, a fire broke out in a process and production room at a recycling plant in Havering. Luckily the plant was fitted with a water mist based sprinkler system. The fire was brought under control before the fire service attended and damage was limited to five square metres.

Compare this with the fire at Herne Hill Waste Transfer on 08 September 2001. In this case nearly 100% of the building was alight at one point with a partial collapse. London Fire Brigade had to mobilise 15 fire appliances and 100 firefighters and used two 32 metre turntable ladders as water towers.

The fire had a significant impact on the communities in the surrounding area and also meant that local residents had to keep their doors and windows shut during a heatwave. In the end teams from LFB were present on site for over 80 hours.



***The National Fire Chiefs Council (NFCC) says that UK Fire and Rescue Services (FRS) attend around 300 significant fires in waste sites each year, which are often difficult to extinguish, requiring multiple FRS resources for significant periods of time which can have a serious impact on the local community.***



## Tumble dryer fire

This is what's left of a tumble dryer that caught fire in a care home in Dunblane, Scotland back in June. Three fire appliances from Scottish Fire and Rescue Service attended and committed a team of four firefighters to enter the premises and found that the fire, which was in a ground-floor laundry room, had been contained due to the activation of just one concealed sprinkler head.

# Tall building kitchen fire



On the 26th June, Triangle Fire Systems were called to reinstate the residential sprinkler system following a kitchen fire on the 11th floor of a residential block of flats following the activation of one sidewall sprinkler head (VK480). The system was back online within 45 minutes of their arrival.

Birmingham Council should be applauded for their continued commitment to providing its residents with the highest level of fire safety by retrofitting sprinklers in all their high-rise residential blocks of flats. The specification, design of the residential sprinkler system (BS9251:2014) for each individual premises was bespoke which included:

- Category 2/3
- VK480 Sprinkler heads
- Water supply 60-minute tank (16000L)

With the following enhancements:

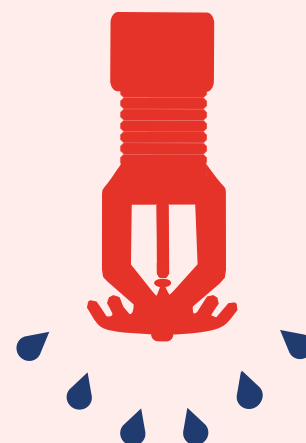
- Dual pumps

- Back-up power supply diesel generator
- FRS inlet
- Remote monitoring

The fire was contained to the compartment of origin by the activation of one sidewall sprinkler head. Heat /fire damage was limited to the area in the vicinity of the kitchen wall unit directly above the source of ignition. The water spray from the activated sidewall sprinkler head was partially obstructed (shielded fire) by the kitchen wall unit located directly above the heat source, which didn't impact the operational efficiency of the sprinkler system.

This incident again clearly reinforces the data contained within the BAFSA Incident Data Report No 3 that inside the flats of purpose-built flats, the kitchen start location accounted for the highest number of incidents where sprinklers were recorded as having been involved or actuated.





# See a Sprinkler Save - then report it!

**Help us gather the evidence to ensure that sprinklers become the norm and not the exception**

BAFSA's Sprinkler Saves website is calling on all UK Fire & Rescue Service heads to encourage their operational and fire protection staff to report successful sprinkler activations via BAFSA's Sprinkler Saves website, along with sprinkler manufacturers who may be called to reinstate sprinklers that have actuated.

All sprinkler activations can be reported by the FRS using the Sprinkler Saves sprinkler activation reporting form at [www.sprinklersaves.co.uk](http://www.sprinklersaves.co.uk)



**“Encouraging people to promote, collate, report sprinkler activations to Sprinkler Saves UK will help to create a central and comprehensive record of fire incidents where sprinklers played their role in containing/controlling or extinguishing the fire”**

Nick Coleshill, BAFSA's Sprinkler Ambassador

[www.sprinklersaves.co.uk](http://www.sprinklersaves.co.uk)



# Measuring the risks

**Alan Brinson of the European Fire Sprinkler Network looks at the differing regulatory requirements for sprinklers across Europe and finds they are backed by little evidential research and are more about attitudes to risk**

Over the past 20 years I have gathered information on regulatory requirements for sprinklers in 28 European countries, summarising essential details for a dozen occupancies in a spreadsheet which you can find here [www.eurosprinkler.org/law/](http://www.eurosprinkler.org/law/).

For example, height thresholds for sprinklers in hotels range from 0m in Norway to 200m in France and have no limit at all in Belgium and Italy. Area thresholds for sprinklers in retail buildings range from 1,000m<sup>2</sup> in The Netherlands to 10,000m<sup>2</sup> again in Italy. That said, most countries have a height threshold for sprinklers in hotels somewhere between 20m and 30m and an area

threshold for sprinklers in retail between 2,000m<sup>2</sup> and 3,000m<sup>2</sup>. The UK is among them when it comes to retail, but not for hotels.

We require sprinklers in offices if they are higher than 30m, and in blocks of flats with a floor higher than 11m in England (and soon in Northern Ireland), and in all new blocks of flats in Scotland and Wales. Yet hotels have no such requirement. Regulatory guidance for England and Wales is in Approved Document B, where purpose group 2(b) covers 'Hotel, boarding house, residential college, hall of residence, hostel or any other residential purpose not described above' and does not have a height threshold for sprinklers.

People sleep in a hotel, possibly under the influence of alcohol or drugs, and are unlikely to be familiar with the building and its fire safety measures. By contrast, people should be awake and sober in an office, and take part in periodic fire drills. Yet it is the office that gets the sprinklers. Of course, both offices AND hotels should be sprinklered. The distinction between flats and a hotel can be blurred if the building is used for both over its lifetime. It is also odd that if students rent a new high-rise flat it would be sprinklered, but if they stay in a new hall of residence it might not.

An official once admitted to me that the 2(b) exemption was an anomaly, but it is one of long standing. Almost 10 years ago BRE looked at this question for the Government, finding few high-rise hotel fire deaths and therefore no need to require sprinklers. Likewise for halls of residence. Well, at the time, there were very few high-rise halls of residence and most high-rise hotels were fitted with sprinklers anyway (so fire deaths would be unlikely) because Local Acts in large cities required sprinklers. These Local Acts have since been scrapped.

Returning to the differences between countries, one could argue that authorities have differing appetites for risk. But I see little evidence that they have quantified the risk. In practice most fire codes are rarely updated (an important one in France dates from 1980) and when they are revised developer and end-user groups usually win the day, ie no additional costs and no sprinklers, rather than cold analysis.

An exception is large warehouses, where all our competitors in Europe and North America require sprinklers, typically for warehouses larger than 2,000-3,000m<sup>2</sup>. We are stubbornly holding out, with a threshold 10 times as large at 20,000m<sup>2</sup>, affecting only one or two per cent of warehouses.

Officials say that regulations are solely about life safety. As not many people die in warehouse fires - there is no need for sprinklers. Other countries require sprinklers in these buildings to protect firefighters

## “That sprinklers would be a burden on industry does not stand up when our competitors fit sprinklers in warehouses and beat our economic growth rates.

– Germany requires that buildings be designed so firefighters can extinguish a fire. The Dutch also say that un-sprinklered industrial compartment sizes are low to enable firefighters to deal with fires. I heard the same in France, where I was told fires need to be extinguished to protect employment and prevent major pollution. None of this seems to matter here. That sprinklers would be a burden on industry does not stand up when our competitors fit sprinklers in warehouses and beat our economic growth rates. In fact, research conducted for the Business Sprinkler Alliance found that sprinklers make economic sense in warehouses above an area threshold of a

few thousand square metres and are also the right decision for the environment.

One English-speaking jurisdiction in Europe is about to introduce a requirement for sprinklers in large warehouses. Ireland ran a consultation recently on a proposal for a threshold at 1,000m<sup>2</sup>.

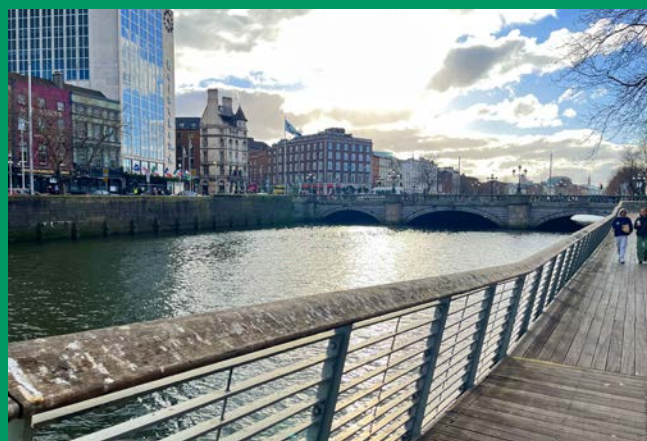
If you would like to learn more about sprinklers in Ireland, or about the latest research, innovations and progress in standards join us in Dublin on 24-25 April for Fire Sprinkler International 2024. We are expecting over 300 delegates for our conference, which will be held at Croke Park, with a dinner in the Guinness Storehouse. I look forward to seeing you there!

## Fire Sprinkler International



EFSN will take Fire Sprinkler International to Dublin in 2024. For two days delegates will have an unmatched opportunity to experience over 40 presentations delivered by global fire protection specialists and sprinkler industry experts in the magnificent Croke Park Stadium. There will also be a two-day exhibition running alongside the conference.

For more details visit: [www.firesprinklerinternational.com](http://www.firesprinklerinternational.com)



Credit: Xaeerhythm



## Armstrong Priestley first to get new sprinkler SKILLcard's

Armstrong Priestley are the first company have employees pass the BAFSA Inspection and Commissioning Course which allows them to apply for the new industry related CSCS SKILLcard.

Steve Brailey, joint managing director, Armstrong Priestley says: "The new Blue Skill Card for Commercial Fire Sprinkler Engineers is a first and we are proud to have our engineers qualified and be amongst some of the very first people to carry the new trade related card."

"Having personally been involved with the BAFSA Skills and Development committee over the last few years, I have witnessed the dialogue with industry and the dedication and time it has taken to reach this position. I genuinely believe this is a point in time. To actually have recognised qualifications and a related process coupled with a H&S qualification which recognises 'Fire Sprinkler Engineers' as a skill and qualification is superb.



"This is potentially the start of a whole structure of recognised qualifications which will allow our industry to recognise our people and offer development of existing and new employees. A bright future for our industry, the skill set within it and standards we set."

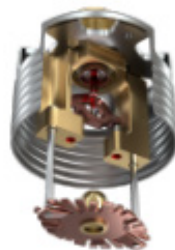
[www.armstrongpriestley.co.uk](http://www.armstrongpriestley.co.uk)

## CE marking for Rapidrop sprinkler connector

Rapidrop's SMB Flexible Sprinkler Connection now carries a CE marking, which indicates its compliance with European safety and performance standards.

Considered to be the product that launched the company, the Rapidrop Flexible was the first product the company brought to market before it expanded into sprinkler heads and products dedicated to the fire suppression industry.

Designed to enhance installation efficiency, the Flexible sprinkler pipe is suited for use in suspended ceiling applications of both commercial and residential buildings. Traditionally, sprinklers installed in suspended ceilings require an arm over using rigid pipe connections which must be measured, cut, and threaded on site using trial and error techniques. The Rapidrop Flexible removes the need for cutting, threading, and precise measurements. It can easily be formed by



hand connecting the sprinkler to the pipework quickly, even in restricted space or voids as small as 100mm (about the length of the long edge of a credit card).

The Flexible connection has been approved by bodies including FM, LPCB, VDS and now the CE marking joins the ranks following certification received under the Construction Products Regulation.

[www.rapidrop.com](http://www.rapidrop.com)

# VIKING

## Viking rounds out residential sprinkler offering

Viking has added a new sprinkler to round out its residential concealed sprinkler offering. The cULus Listed VK495 K3.7 Residential Concealed Pendent provides sprinkler designers more options than ever before when dealing with the variability in water supplies seen in residential sprinkler systems.

The low-flowing K3.7 sprinkler is optimized at the 14' x 14' coverage area flowing only 10 gpm at 7.3 psi. Viking's glass bulb VK495 is available in brass or an Electroless Nickel PTFE (ENT) coating for applications in which corrosion might be of concern. The sprinkler is cULus Listed and has an ordinary temperature rating of 155°F (68°C) and an intermediate temperature rating of 200°F (93°C). Its protective cap prevents damage to the sprinkler during installation and ceiling finishing, and Viking's line of cover plates offers multiple sizes, finishes and shapes.

[vikinggroupinc.com](http://vikinggroupinc.com)

## A&F Sprinklers shortlisted for local awards

A&F Sprinklers have been shortlisted for the Rochdale Business Awards in the category of Apprentice Employer of the Year.

The awards ceremony will take place in Rochdale on 3rd November. We are keeping our fingers crossed for them and they would certainly be worthy winners.

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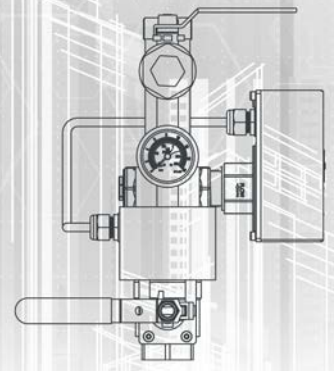
- Flexibility in design & site positioning.
- Compact and easy installation.

Flow Rate (L/min)	Flow Rate (USGPM)	Flow Rate (GPM)	Flow Rate (m³/hr)	Flow Rate (USGPH)	Flow Rate (GPH)	Flow Rate (m³/day)	Flow Rate (USGPD)	Flow Rate (GPD)
10.0	0.28	1.0	0.00028	0.28	1.0	0.00028	0.28	1.0
20.0	0.57	2.0	0.00056	0.57	2.0	0.00056	0.57	2.0
30.0	0.85	3.0	0.00084	0.85	3.0	0.00084	0.85	3.0
40.0	1.14	4.0	0.00112	1.14	4.0	0.00112	1.14	4.0
50.0	1.43	5.0	0.00140	1.43	5.0	0.00140	1.43	5.0
60.0	1.71	6.0	0.00168	1.71	6.0	0.00168	1.71	6.0
70.0	2.00	7.0	0.00196	2.00	7.0	0.00196	2.00	7.0
80.0	2.29	8.0	0.00224	2.29	8.0	0.00224	2.29	8.0
90.0	2.57	9.0	0.00252	2.57	9.0	0.00252	2.57	9.0
100.0	2.86	10.0	0.00280	2.86	10.0	0.00280	2.86	10.0

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