sprinkler focus

British Automatic Fire Sprinkler Association
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The magazine of the British Automatic Fire Sprinkler Association

WINTER 2026 ISSUE



INTERVIEW

Cost vs conscience

Peter Apps on where sprinklers can make a difference

PLUS | Car parks | Heritage retrofitting | Sprinkler saves | Tank maintenance



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CONTENTS



4 News
Fire safety news from the automatic fire suppression sector.

8 Interview
Sprinkler Focus speaks to author and journalist Peter Apps about whether we have really learnt the lessons of Grenfell and why he thinks sprinklers are still not front and centre of the fire safety agenda.

10 From the chief executive
Alasdair Perry, BAFSA Chief Executive, reflects on recent achievements and efforts to raise competence and standards across the sector.

14 Ask Joe
BAFSA's technical sage, Joe McCafferty, answers your sprinkler and fire safety related questions.

18 Retrofitting
With more changes in Scotland regarding retrofitting and heritage – Stewart Kidd brings us up to speed with the current position and remaining challenges.

22 Continuing Professional Development
A range of new CPD courses covering subjects from social housing to handling difficult conversations at work are now available from BAFSA's Training Centre.

24 Car parks
The BSA's Tom Roche argues that while proposed changes to car park fire safety recognise an increased fire risk. They don't take other issues such as fire spread fully into account.

26 Tanks and TB203
BAFSA's new TB203 guidance sets out a consistent approach to inspecting, reporting on and maintaining sprinkler water storage tanks.

30 Sprinkler Saves
Nick Coleshill, BAFSA's Sprinkler Saves co-ordinator, provides an overview of sprinkler incidents submitted by the London Fire Brigade and rounds up some recent additional sprinkler saves.

36 CABE
Gary Strong, Technical Consultant at CABE looks at the most frequent questions its own members ask about sprinklers.

39 SkillCard
Having the right skill card is increasingly important when working on major UK construction projects. Ruth Oliver BAFSA's Head of Training runs through the options available.

42 BAFSA Conference 2026
An at a glance look at this year's BAFSA Conference agenda.

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British Automatic Fire Sprinkler Association bafsa

Sprinkler Focus is the biannual magazine of the British Automatic Fire Sprinkler Association. It is the only UK publication which has automatic fire sprinklers at its core with current news, features and opinions along with case studies and product updates. Printed in the UK by RIASCA.

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Sprinklers in mass timber webinar

EVENTS

The growing use of mass timber in modern construction is creating new challenges for fire safety professionals, with fresh research highlighting the need to understand how sprinkler systems and critical fixings perform under fire conditions.

In an upcoming webinar, Dr Dale Kinnersley, Principal Consultant at the Fire Protection Association (FPA), will explore the fire safety implications of mass timber buildings and share findings from his PhD research into sprinkler performance and fixing systems.

As the construction industry increasingly adopts lower-carbon alternatives to traditional materials such as concrete and steel, mass timber is playing a greater role in developments ranging from commercial buildings to high-rise structures. However, timber's combustible nature presents distinct fire safety considerations, particularly where structural timber surfaces are left exposed.

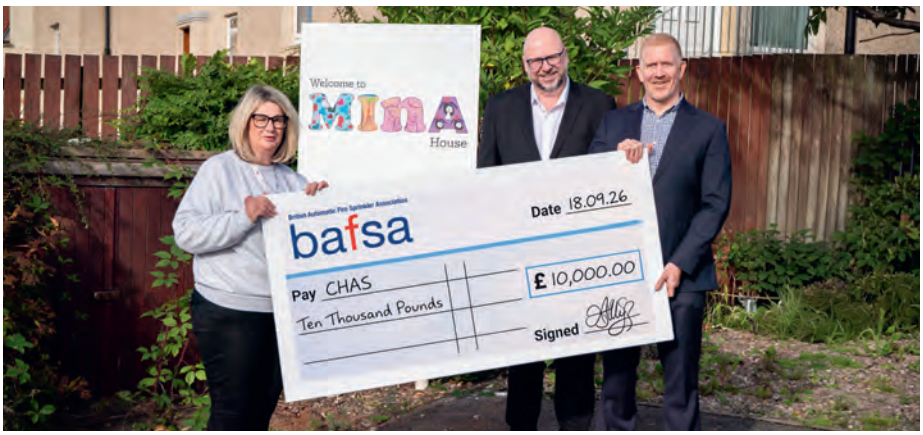
While automatic sprinkler systems remain a key component of building fire safety strategies, conventional design approaches have largely developed around assumptions associated with limited or non-combustible construction. The webinar will examine whether these approaches provide adequate protection in buildings featuring exposed timber surfaces.

Dr Kinnersley will discuss current industry guidance, insurance considerations and knowledge gaps, alongside research investigating how sprinkler systems and associated mechanical and electrical (M&E) fixings can be adapted for mass timber environments.

The session will explore how sprinkler type, orientation, operating pressure and installation configuration can influence the wetting of ceilings, walls and floors. It will also examine new research into the fire performance of sprinkler systems and fixings installed into timber structures, and the implications for system reliability and life safety.

The findings from Dr Kinnersley's research have directly informed new guidance within the LPC Sprinkler Rules, the UK's primary sprinkler installation standard, and proposed changes to European sprinkler standards. The research has also received industry recognition, winning the IFSM Fire Safety Project of the Year 2026 and securing a nomination in the Fire Safety Solution of the Year category at the 2026 London Construction Awards.

The webinar is aimed at designers, installers, insurers, building owners and fire safety professionals seeking to understand the practical implications of mass timber construction and the measures needed to support effective fire protection. Taking place on 1 December 2026 at 2pm GMT, you can register for the webinar via the Fire Protection Association's website at thefpa.co.uk.



BAFSA supports sprinkler upgrade at children's care home

RETROFITTING

BAFSA has donated £10,000 towards the installation of a new fire sprinkler system at Mina Lodge Children's Care Home in Fife.

The donation, presented by BAFSA Chief Executive Ali Perry and Scottish Representative Alan Crichton (pictured) was matched by Discovery Fire Sprinklers whose MD James Bryceland also presented a cheque to the team at the care home for the same amount.

The project retrofitted the care facility with a sprinkler system designed to BS 9251:2021 Category 3, providing enhanced fire protection for residents and staff inline with current Scottish sprinkler legislation for care homes.

BAFSA has worked with the project team to create a detailed case study, including installation and associated building costs, which could help inform future discussions around fire safety legislation which will be published soon.

The project has received valuable support from additional suppliers, including Rapidrop and Pure Water and Applications Engineering.

Inspiring the next generation

CAREERS

A&F Sprinklers HR Manager, Dan Clayton, and Service Manager, Danny Heatley, attended Whitworth High School's careers fair in October to showcase the opportunities available in the fire sprinkler industry. From engineering and design to installation and service, they spoke with students about the varied career paths within fire protection and how our industry helps protect lives and property.



Mandatory refresher training to be introduced from June 2027

TRAINING

BAFSA in partnership with SKILLcard, part of the BESA Group, has announced a new mandatory refresher training requirement for fire sprinkler installers to support the drive towards ongoing competence in the fire safety industry.

The new requirement will come into effect on 1 June 2027 and is designed to ensure that fire sprinkler installers maintain current knowledge, technical competence and awareness of relevant legislation and industry best practice throughout their careers.

Under the new requirements, experienced workers will no longer be able to renew their SKILLcard solely on the basis of existing qualifications and standard health and safety testing. Applicants will need to successfully complete a verified, industry approved refresher qualification, together with a short accredited Continuing Professional Development (CPD) programme, before submitting their renewal application.

"Our primary aim is to ensure that every cardholder has access to up-to-date knowledge of relevant legislation, regulations and industry best practice. Introducing a structured refresher programme provides a consistent approach to maintaining competence and supports the high standards expected across the fire sprinkler industry." Said Ruth Oliver, BAFSA Head of Training.

Jill Nicholls, Director of Competence and Compliance at BESA, said "Competence cannot simply be demonstrated once and then assumed. It needs to be maintained as standards, regulations and working practices evolve. We have been pleased to work with BAFSA through SKILLcard to support this important change. It will help experienced fire sprinkler installers keep their knowledge current and provide a clear way to demonstrate ongoing competence and compliance, ultimately helping to strengthen standards across this critical sector."

BAFSA and SKILLcard have established a transition framework to give employers and installers sufficient time to understand and meet the new requirements before they become mandatory.

A six month notice period is being provided ahead of the new requirements coming into effect. Installers whose cards expire after 1 June 2027 are encouraged to review the new renewal criteria as soon as possible and plan their training accordingly.

Prerequisites for refresher training

To enrol on the new refresher training, installers must:

- Hold an appropriate foundational qualification, such as the Level 2 Certificate in Fire Sprinkler Installation
- Hold a current health and safety certificate, completed within the previous two years

The training required as part of the new renewal process is already available through theBAFSA e-learning portal. The required programmes are:

- ABBE Level 2 Award: Application of Legislation & Regulations in Fire Sprinkler Installations
- Principles & Practices of Automatic Fire Sprinkler Systems CPD Programme

Electric vehicle charging consultations including car parks

LEGISLATION

The government has launched two consultations on improving electric vehicle (EV) charging access in England, both closing on 16 December 2026.

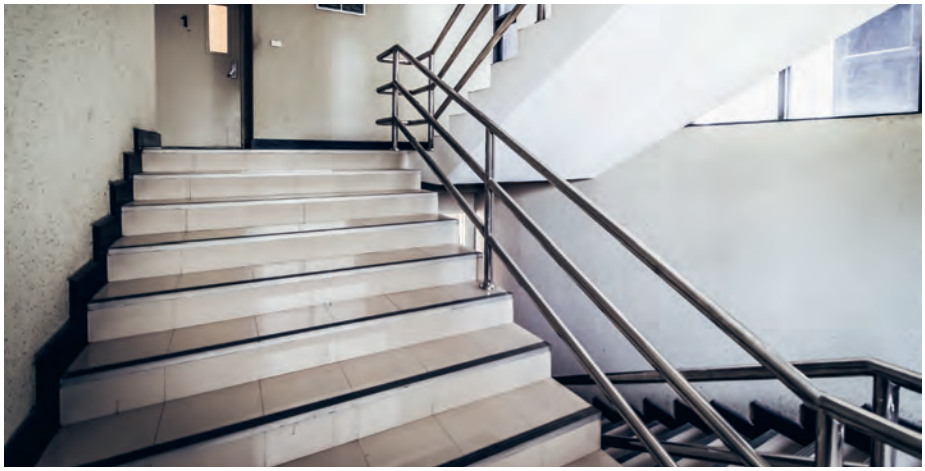
Published on 21 October 2026 by the Department for Transport and the Ministry of Housing, Communities and Local Government (MHCLG), the first consultation proposes changes to Part S of the Building Regulations.

These include requiring EV charge points in new covered car parks and those undergoing major renovation, reviewing installation cost caps, updating safety guidance and simplifying requirements. The second consultation explores ways to improve EV charging access for tenants and leaseholders, including giving them clearer routes to request permission from landlords and freeholders to install charge points.

Read Tom Roche's article on fire safety in covered car parks in page 24



Approved Document B – what's changed?



STANDARDS

Amendments to Approved Document B came into effect in England on 30 September 2026, introducing new guidance on second staircases and evacuation lifts in taller residential buildings. For sprinkler contractors, designers and fire safety consultants, the changes highlight the importance of coordinating suppression systems with the wider fire strategy and confirming which regulatory provisions apply to each project. The amendments do not introduce a new general sprinkler height threshold. Instead, they address escape and evacuation arrangements, building on earlier changes to sprinkler guidance for flats and care homes.

The September 2026 amendments introduce two principal changes. First, is a recommendation for more than one common stair in blocks of flats where a storey is 18m or more above ground level. The second is for additional building-design provisions intended to support the use of evacuation lifts in blocks of flats.

These changes can affect building cores, corridors, apartment layouts, smoke control and firefighting access. They may also have implications for sprinkler pipework routes, riser positions, system zoning and access for maintenance. Where architectural layouts or fire strategies have changed, suppression designs should be reviewed against the latest drawings rather than carried forward from earlier design stages.

Sprinkler requirements

The new 18m threshold for the second-stair recommendation should not be confused with existing sprinkler guidance. In England, Approved Document B already recommends sprinkler protection throughout new blocks of flats where the top storey is more than 11m above ground level.

A separate amendment requiring sprinkler provision in all new care homes, regardless of height, took effect on 2 March 2025. These provisions address different aspects of fire safety. Project teams should consider them alongside the applicable fire strategy rather than relying on a single height threshold to determine suppression requirements.

The 2026 amendments include transitional provisions for qualifying projects. Broadly, earlier guidance may continue to apply where the relevant building notice, initial notice or full-plans building control approval application was submitted before 30 September 2026, provided the applicable commencement and sufficient-progress conditions are met. The provisions include an 18-month period beginning on that date for qualifying work to reach the required stage of progress.

Contractors should not assume that a project qualifies simply because its design began before the change or a contract has been awarded. Application dates, commencement and the government's definition of sufficient progress must be checked against the official provisions. Where the position is uncertain, the project team should confirm the applicable route with the relevant building control body.



Fire & Safety Woman of the Year!

PEOPLE

Congratulations to BAFSA's Skills & Qualifications Advisor and Head of the BAFSA Training Centre who won the prestigious Women of the Year Award at the Women in Fire Safety Awards 2026.

The awards celebrate the outstanding achievements of exceptional females working across the fire safety industry and recognise those individuals who are driving innovation, leadership and higher standards. In her 14 years working for BAFSA Ruth has done all of the above and this award is so richly deserved.

Chief Executive of BAFSA, Ali Perry, says: "Ruth has consistently gone beyond expectations by leading a fundamental shift in how the UK sprinkler industry views competence, qualifications and professional development."

Ruth says: "I'm absolutely delighted and honoured to have received the Women in Fire Safety, Woman of the Year Award, it is an Award I will cherish. Whilst the Award is an acknowledgement of my work and achievements, I am incredibly grateful to everyone at BAFSA for their continued support and encouragement over the years. It means a great deal to be part of an organisation so committed to raising standards, developing qualifications, competence, and supporting people across the fire safety industry and the recent development of the BAFSA Training Centre has surpassed my expectation."

Base Fire Sprinklers delivers residential sprinkler system at historic Bolton Mill conversion

RESIDENTIAL

Base Fire Sprinklers is delivering a BS 9251:2021 Category 3 sprinkler system at Cotton Gardens in Bolton, supporting the conversion of the historic Union Mill into 105 residential apartments.

Dating back to 1875, the building presents unique challenges compared with a standard new-build development. The project requires the careful integration of modern fire protection measures while retaining the character and features of the existing structure.

The sprinkler system will provide protection to apartments and communal areas in accordance with the project's fire strategy. Comprising 600 sprinkler heads, the system will utilise a shared water supply. Refurbishment projects of this nature require careful planning and coordination from an early stage. Sprinkler pipework routes, access requirements, water supply arrangements and interfaces with other trades must all be considered alongside the building fabric, apartment layouts and wider fire strategy. Cotton Gardens highlights the importance of specialist sprinkler design and installation experience when adapting historic buildings for modern residential use, ensuring fire protection requirements are integrated with the practical demands of complex refurbishment projects.

Other wins

Residential: Discovery Fire Sprinklers have been appointed by house builders Taylor Wimpey to design and install residential sprinkler systems on Phase 1 of its Whitefield Gardens development. They will deliver fully compliant BS 9251 systems, from design and hydraulic calculations through to installation, commissioning and handover.
Retail: J&J have completed sprinkler installation works for a new JD Sports unit in Middlesbrough. The team will be delivering the design and installation of sprinkler protection across the shop floor and remote store room.

BAFSA Students of the Year 2026

AWARDS

Congratulations to this year's BAFSA Students of the Year. All have demonstrated excellence in learning and communication according to their nominators, Alan Hughes of Llandrillo College and Alan Crichton of The Fire Systems Academy. They are, in no particular order:

Hammed Ali Shah (Compco)
ABBE Level 5 Diploma in Classification and Pre-calculated Sprinkler System Design (new entrant)
John Fowler (Hall & Kay)
ABBE L2 Certificate in Fire Sprinkler Installation – Commercial
Daniel Wood (Premier Mist)
ABBE L2 Certificate in Fire Sprinkler Installation – Residential
Craig Hawkins (First Fire Protection)
ABBE L2 Certificate in Fire Sprinkler Installation – Residential & Commercial
Adrian Rigby (previously of NuForm, now with Carswell Engineering)
Inspection and Commissioning of Commercial Fire Sprinkler Systems.

Students will be presented with their awards at the BAFSA Annual Conference on 19 November 2026. For details on the ABBE accredited sprinkler industry qualifications BAFSA offers visit bafsa.org.uk.

Sprinklers save Northampton warehouse

SPRINKLER SAVE



Northamptonshire Fire and Rescue Service (NFRS) reported a fire in a sprinkler-protected distribution warehouse to BAFSA's Sprinkler Saves.

Firefighters responded to a confirmed warehouse fire on a Northamptonshire trading estate on the evening of 23 July. Upon arrival, they discovered that the building's sprinkler system had successfully extinguished the fire on the fifth-floor mezzanine level, eliminating the need for further firefighting action. Firefighters removed the affected materials and used a thermal imaging camera to check for any remaining hotspots as a precaution. Ongoing enquiries are being conducted to determine the cause of the fire.

BAFSA says: Storage and warehouses that have a high storage density can result in fires of such magnitude that it is impossible for the FRS to access and conduct manual firefighting operations. Research by the NFCC indicates a 4000m2 threshold is the limit for effective rescue clearly demonstrating that the current 20,000m2 limit for storage and warehouses needs to be lowered.

"Accountability and enforcement will be important parts of the new regime if it is to deliver long-term change"

Sprinkler Focus speaks to journalist, author and fire safety campaigner Peter Apps about the post Grenfell fire safety landscape and where he sees sprinklers fitting into that picture

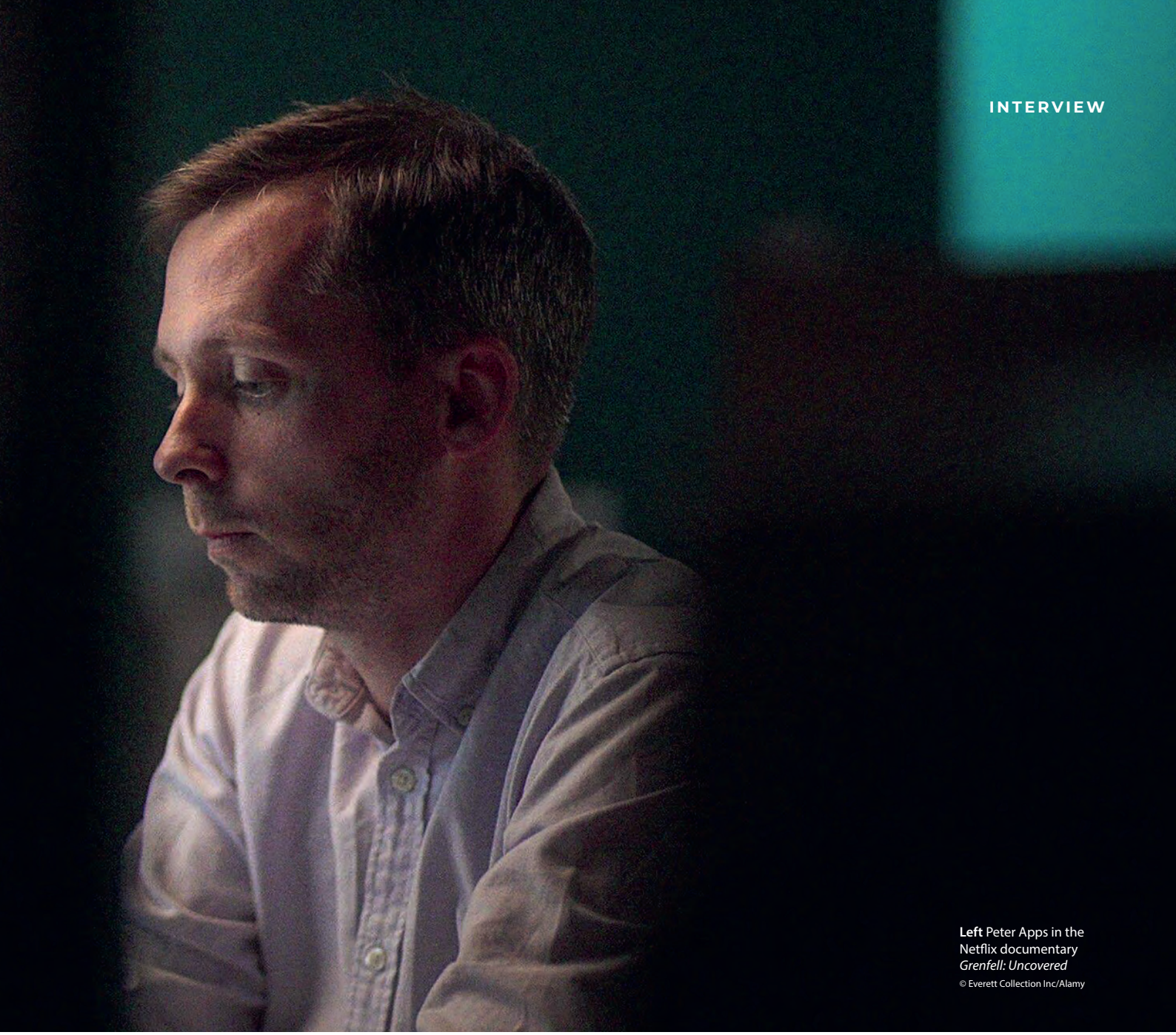
Do you believe fire safety is now being given sufficient priority in building design, or does it still tend to be considered too late in the process?
I think the picture is mixed. Fire safety is certainly taken seriously and – for high rise residential buildings at least – it now has to be considered at every stage. But there are still blind spots, particularly when the building is below 18m in height, or for buildings built before the new regulatory regime kicked off.

If you could change one thing about the UK's approach to fire safety following Grenfell, what would it be?
I still feel we haven't properly addressed the issue of disability inequality. Residents with disabilities died disproportionately at Grenfell, but I still feel a lot of the discussion about fire safety strategies are designed with able-bodied people in mind and treat disability as an afterthought.

Is the UK making full use of the preventative fire-safety technology already available, or are we continuing to rely too heavily on evacuation strategies and fire-service intervention?
I think before Grenfell we had all of our eggs in the basket marked 'compartmentation' and a total reliance on stay put as a result. This was bound to fail, and already had before the Grenfell fire. I would like to see more layers of protection – include active prevention – as part of the country's overall approach to fire safety.

Do you think the public, policy-makers and building owners fully understand what sprinklers can achieve in controlling a fire before it develops?
I think people are aware of the potential of sprinklers to control fire – yes. I think people worry about the cost and disruption of putting them into already occupied properties, the maintenance costs and the potential for water damage if triggered inappropriately. These seem to be the factors that hold back wider adoption, rather than a lack of understanding about their efficiency.

Do we as an industry need to do more/change the conversation around sprinklers?
I am surprised they have not been adopted



Left Peter Apps in the Netflix documentary *Grenfell: Uncovered*
© Everett Collection Inc/Alamy

more widely since Grenfell, especially in high rises. So yes.

Should government introduce a clearer national strategy for retrofitting sprinklers into existing residential buildings, particularly social housing?

I think the government is unlikely to do this because they will worry about the cost. Even immediately after Grenfell, mass sprinkler retrofit was expressly ruled out as too costly, so I don't think it will happen now. But I would like to see proper consideration of the buildings where sprinklers could have the biggest impact in preventing death or another disaster – those where there are a high proportion of vulnerable people and/or firefighters will naturally take longer to get water on the flames.

What would you say to a housing provider that believes its existing fire risk assessment is sufficient and that investing in sprinklers is unnecessary?

I'm not going to sell sprinklers to the sector, but I think understanding what layers of protection are in place and what a fire risk assessment does and doesn't tell you is important. Saying you comply because you have a particular piece of paper is not the same as knowing your residents are safe. We can see from fire data that certain people are more at risk of dying in fires, that certain buildings will perform worse and that certain properties will have to wait longer for firefighters to get water onto the flames. If sprinklers could save lives in buildings like these, then they should, of course, be looked at.

Do you think the Building Safety Act and the wider regulatory reforms will create lasting cultural change, or is there a still a risk that the industry will eventually revert to old habits?

There is always a risk of reversion to old habits. I think the change will be complex. For some professionals and for some organisations, it will be meaningful and permanent. For others, they are unlikely to change at all and will continue to seek the lowest cost way to get around the system. Accountability and enforcement will be important parts of the new regime if it is to deliver long-term change. ■

Peter Apps is author of the Orwell Prize-winning book *Show Me The Bodies: How We Let Grenfell Happen*. He will be BAFSA's keynote speaker at its annual conference on 19th November 2026

Increasing our influence

Alasdair Perry, BAFSA's Chief Executive, looks back at the association's achievements in recent years and its focus on competence and raising standards in the sector



As BAFSA approaches its AGM and Conference on 19 November, it is timely to reflect on how the Association has developed over the past three years. BAFSA has expanded its learning offer, strengthened its evidence base and increased its influence on policy and standards. This growth has served a practical purpose: improving confidence in automatic water-based fire suppression through competence, quality and credible evidence.

BAFSA now supports more than 1,000 CPD enrolments, while its market analysis indicates that members represent around 92% of total value. Its voice is increasingly heard in Parliament, government, standards committees and the wider fire sector.

Competence and learning

The most visible transformation has been in education and competence. BAFSA has developed online learning and expanded its qualifications and CPD across awareness, installation, inspection and commissioning, design, legislation and regulation.

By mid-2026, more than 1,000 people had enrolled on BAFSA CPD programmes and over 800 had registered for the introductory Awareness of Automatic Fire Sprinkler Systems course. Participation has grown across Level 2, Level 3 and Level 5 qualifications. BAFSA also retained Direct Claim Status following external quality assurance, allowing it to claim certificates directly from the awarding organisation and demonstrating confidence in its assessment and internal quality arrangements.

Recent developments include an ABBE Level 2 award covering legislation and regulation and work on a qualification for new entrants. BAFSA is also progressing higher-level design learning and chairs the Active Fire Protection Sector-led Group and Fire Sprinkler Group, helping to connect qualifications and Skillcard routes. Alongside this, BAFSA and the Fire Protection Association are exploring a centre of excellence for practical sprinkler training.

Evidence that strengthens the case

BAFSA has become a more evidence-led organisation. The fifth annual *Sprinkler Saves Review*, published in 2026, turns verified incidents into a growing body of evidence about life safety, firefighter protection, property preservation and business continuity.

BAFSA commissioned Optimal Economics to analyse English fire incident data from 2018/19 to 2023/24. It identified 2,924 fires where a sprinkler or watermist system was recorded as present, with sprinklers involved in 2,438 cases, or 83%. The available data could not support a robust comparison of effectiveness because the watermist category included substantially different technologies and applications.

BAFSA is committed to working constructively with its watermist members and the wider watermist industry. It has revised technical guidance, participated in the joint BAFSA and FIA Watermist Working Group and contributed to standards and certification. The objective is the appropriate use of each technology according to risk, application and reliable evidence.

A stronger voice

BAFSA's campaigns are now better supported by independent evidence. Sprinklers in schools remain a priority, with BAFSA working alongside the National Fire Sprinkler Network and presenting the evidence

“BAFSA has also transformed how it communicates and engages. A redesigned website, the monthly BAFSA Bulletin, BAFSA TV, webinars and a stronger presence on LinkedIn and in sector media have made evidence and technical information more accessible”





> **"BAFSA has attended meetings of the All-Party Parliamentary Group on Fire Safety and Rescue and gave oral evidence to the House of Lords Justice and Home Affairs Committee during its inquiry into fire safety in prisons"**

and business case at the Fire Safety Matters Conference in Coventry. BAFSA has also spoken to the Institute of Fire Safety Managers about the evidence surrounding sprinkler and watermist systems and the importance of applying it in context.

This engagement extends into Parliament. BAFSA has attended meetings of the All-Party Parliamentary Group on Fire Safety and Rescue and gave oral evidence to the House of Lords Justice and Home Affairs Committee during its inquiry into fire safety in prisons, ensuring that practical industry experience informs national scrutiny.

Technical influence remains central. BAFSA contributes across BSI committees and coordinated industry scrutiny of the major revision to EN 12845. Following FIRAS's withdrawal from water-based suppression certification schemes, it worked with UKAS, certification bodies and affected companies to support an orderly transition and robust third-party certification.

Improved communications and engagement

BAFSA has also transformed how it communicates and engages. A redesigned website, the monthly BAFSA Bulletin, BAFSA TV, webinars and a stronger presence on LinkedIn and in sector media have made evidence and technical information more accessible. LinkedIn followers grew from around 850 in 2023 to more than 3,000 in 2025, extending our reach among members, policymakers and fire safety professionals.

Research and collaboration

BAFSA is working with the Fire Protection Association, BRE, the European Fire Sprinkler Network and other partners on research into sprinkler performance in lithium-ion battery fires. The work is funded by BAFSA, with additional funding awarded by Electrical Safety First in 2025. Further testing is planned for January 2027 before the final report. Conclusions will follow when testing is complete.

Work with the Alliance for Sustainable Building Products is exploring an environmental roadmap while recognising the environmental benefit of avoiding major fires.

European engagement has strengthened through Fire Sprinkler International 2026 in Paris and the meeting of European sprinkler association leaders. These forums enable associations to exchange knowledge and address shared challenges in standards, competence, sustainability and new technology.

A platform for the future

These achievements are connected. Growth in learning has created capacity to invest in research and digital infrastructure. Better evidence has strengthened campaigning and policy engagement, while stronger representation has enabled BAFSA to bring members and partners together around standards, certification and competence.

There is more to do. Advanced design training, lithium-ion testing, the environmental roadmap and parts of the competence framework remain under development, while the schools campaign continues. Nevertheless, as members gather on 19 November, BAFSA can look back on substantial progress from a much stronger platform. None of this would have been possible without the incredible effort of the BAFSA team, Council, committees and members. ■

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ASK JOE



Your questions answered by Joe McCafferty, BAFSA Technical Support

Over recent months, BAFSA Technical Support has received a wide range of enquiries covering sprinkler systems, wet and dry risers, fire-service access and other important fire safety topics in domestic, residential and commercial buildings. In this edition, we're sharing a selection of recent questions, along with the guidance provided to help clarify requirements, address common concerns and support good practice across the industry.

Note: Some responses necessarily express a technical opinion or suggest good practice where the relevant UK, European or American sprinkler rules do not provide a definitive requirement. Project-specific decisions should be agreed with the authority having jurisdiction and other relevant stakeholders.

Have a technical question of your own? We're here to help! Simply visit bafsa.org.uk and head to the *Ask BAFSA* page.



LOW-VOLTAGE MONITORING EQUIPMENT IN RISER CUPBOARDS

BS 9251:2021, Section 5.4(e), states that cupboards and pantries are exempt from sprinkler protection where the floor area is less than 2m², or the least dimension does not exceed 1 m, provided they do not contain consumer units or electrical equipment, other than a single light fitting.We are designing for a system with valve sets per floor in a communal service riser cupboard and within the riser is an I/O unit for connecting our flow switch and stop valve to a monitoring system. These I/O units are loop powered from the fire panel on the ground floor communal area via FP200 cable. This is like a loop powered smoke detector system. Our question is do the riser cupboards that have the monitoring I/O units require to be sprinkler protected or are they exempt as they are only loop powered rather than mains powered?

Joe: On the information provided, the I/O units appear to be 24v loop-powered signalling devices connected to the fire-alarm system, rather than mains-powered equipment serving an operational load. In my view, that distinction supports treating them differently from the consumer units or other electrical equipment contemplated by the exemption. However, the final interpretation should be confirmed against the project specification and with the authority having jurisdiction. I recommend recording the proposed interpretation and submitting it to the authority having jurisdiction at design stage, so that any requirement for sprinkler protection is resolved before installation.



SPRINKLER PROTECTION IN A UTILITY ROOM

Our new house has a sprinkler system that is serviced every year. This year's inspection report mentioned that there should be a sprinkler head in the utility room where we have a washing machine and dryer. Please can you tell me if the builders should have installed a sprinkler head?

Joe: It is my opinion that the utility room needs to have sprinklers. It does not fit into any of the areas described in the BS 9251 paragraph 5.4: Extent of sprinkler protection for further design limitations and requirements. But have a read of that paragraph, and you will see my reasoning for sprinklers.

EXPANSION BELLOWS ON A DRY-RISER MAIN

We have a dry riser system where the horizontal pipework at ground-floor level crosses the building's movement joints as it runs towards the stair core. Following consultation with expansion specialists, it has been suggested that stainless-steel expansion bellows, with anchors on either side, could be used to accommodate the building movement. However, the dry riser subcontractor has raised concerns about the initial thrust forces generated when the fire service charges the dry riser with water. They are concerned that the movement and forces experienced during filling could potentially damage the bellows. Have you come across expansion bellows being used on dry riser pipework before? If so, how were they installed to accommodate building movement while safely managing the forces generated during filling?Are there any relevant standards, regulations or guidance that prohibit the use of expansion bellows on dry riser systems?

Joe: BS 9990:2015 does not mention expansion/movement between buildings or pipes. It only mentions the limitation of the maximum length of 18m horizontal pipe run in paragraph 4.2.2. It's an interesting question and I think the sub-contractor is taking a very responsible approach. I wonder if their caution is based on any excessive pressures they have encountered on installations they have done before?

I don't see the use of superior stainless steel expansion/movement connection as being an issue provided the possible pressure is considered and it is installed to the manufacturer's recommendations. Fire-service pumps can generate substantial pressure when charging a dry main, and a transient pressure spike or water-hammer event is a foreseeable if not very likely, design consideration.

The proposed bellows assembly, anchors and adjacent pipework should therefore be checked by a competent designer for the maximum operating and transient pressures that could occur. The assembly should also be selected, installed and restrained in accordance with the manufacturer's recommendations. Consultation with the local fire and rescue service may help establish any relevant operational assumptions. I would be interested to hear the outcome for future reference.

INTEGRATING IP-BASED COMMUNICATION SYSTEMS

We are a manufacturer specialising in IP-based communication systems used in building safety and emergency communication applications. In modern building projects, IP-based public address and voice alarm systems are increasingly being used alongside fire detection and sprinkler systems for emergency communication and evacuation purposes. From your perspective, how is the industry currently viewing the integration of IP-based communication systems within fire safety strategies?

Joe: A sprinkler system generates an alarm when water flows through the pipes and also sends signals when there is a fault. Those signals are then passed to the relevant control or monitoring system, which determines the required response—for example, initiating an alarm, supporting evacuation procedures or reporting a fault. The cause-and-effect strategy should be defined by the fire-safety design and coordinated with the fire-alarm and building-management systems.

We commonly use three sprinkler rules in the UK.

- BS 9251 for residential and domestic sprinkler systems
- BS EN 12845 for commercial properties like warehouses and office blocks etc.
- Fire insurers may want us to use LPC Sprinkler rules issued by the FPA for property protection.

I recommend you get copies of these standards for more detailed reading and the UK Government Approved Document B Fire Safety.Look up BS EN 12845 Annex I Transmission of alarms and see also BS 9251 paragraph 5.18 Sprinkler system fire and fault alarm functionality.

AGEING SPRINKLER SYSTEMS AND MAINTENANCE PLANNING

We manage a lot of sites' sprinkler systems which have older sprinkler systems. I encounter some leaks from heads and pipes on systems that are very frequently drained for extensions etc. Some of the sites are about 8 years old. We had a leak last week, which prompted me to look to the future. Would you have such a thing as an ageing-plant risk assessment for a sprinkler system? It is usually done on facility plant equipment, but I see no reason for the sprinklers not to be treated equally. I am looking to build out what testing and replacement we will need to do on the network in the future. I know there is NFPA25, looking for a UK equivalent to compare. If you have an example of such an assessment, I can consider it and put it to good use.

Joe: For systems within the scope of the LPC Rules, refer to *RISCAuthority Technical Bulletin TB203, Care and maintenance of automatic sprinkler systems*, published by the Fire Protection Association.

'Care and maintenance of automatic sprinkler systems Replaces BS EN 12845 Clause 20 and supplements Clause 21. Implementation date: It is recommended that this Technical Bulletin should be implemented for all contracts let from 1 January 2025. Where all stakeholders agree, it may be used immediately.'

It covers all the maintenance requirements of sprinkler systems installed to BS EN 12845 (most commonly installed systems in UK). It gives information from routine weekly maintenance and for when the system gets older up to 25 years. Read TB203 alongside the associated 2025 service-and-maintenance guidance, records and checklists. Together, these documents provide a stronger basis for developing an ageing-system risk assessment and a forward testing, inspection and replacement plan. After reviewing them, please come back to BAFSA if you need further guidance. This is the weblink for the free download of this document: https://www.thefpa.co.uk/resource-download/764

MEASURING THE 50M THRESHOLD FOR WET FIRE MAINS

We are being asked by a client to carry out the design of a Dry Riser to BS 9990:2015. The building is overall 53.5m high with a high-rise sprinkler system. Per BS 9990 4.2.1 *"Where there are floors higher than 50m above the service access level, wet fire mains should be installed..."*

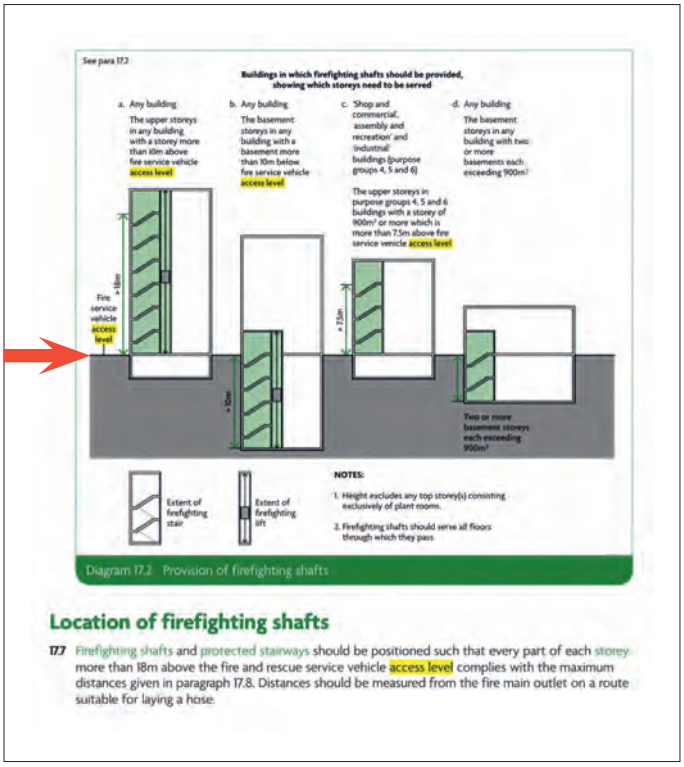
On this project, there is a ramp from the external breeching inlet to the Level 00 FFL. Does the 50m limit measure from:

- **The bottom of the ramp to the FFL of the top floor in the building?**
- **The bottom of the ramp to the landing valve on the top floor?**
- **The breeching valve to the landing on the top floor?**

I just want to ensure my measurement is taken from the correct level, in case a Wet Riser is required instead.

Joe: You refer to BS 9990 4.2.1 *"Where there are floors higher than 50m above the service access level, wet fire mains should be installed..."*

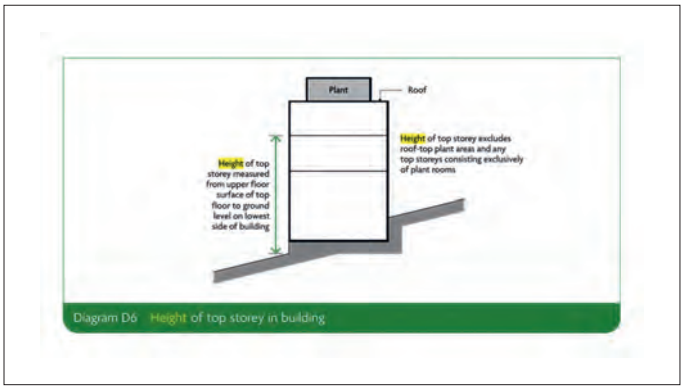
What it actually states is: Per BS 9990 4.2.1 *"Where there are floors higher than 50m above the FIRE service access level, wet fire mains should be installed..."* I know it's a bit 'picky' but very relevant. The current edition of Approved Document B, Volume 2, provides guidance on establishing the fire-service access level. Because Approved Document B is amended periodically, confirm that the edition and diagram references used are those applicable to the project and jurisdiction.



Location of firefighting shafts

17.7 Firefighting shafts and protected stairways should be positioned such that every part of each storey more than 18m above the fire and rescue service vehicle access level complies with the maximum distances given in paragraph 17.8. Distances should be measured from the fire main outlet on a route suitable for laying a hose.

Once the fire-service access level has been established—normally the level at which the fire and rescue service can position its appliance—the 50 m measurement is taken vertically to the relevant upper floor level, rather than from the ramp, breeching inlet or top-floor landing valve.





"Where no project-specific identification requirement dictates otherwise, the pipework may be finished in a colour that blends with the rooflight or surrounding construction"

So, to answer your question, "Does the 50m limit measure from":

- The bottom of the ramp to the FFL of the top floor in the building? **NO**
- The bottom of the ramp to the landing valve on the top floor? **NO**
- The breeching valve to the landing on the top floor? **NO**

PAINTING SPRINKLER PIPEWORK

Could you please advise if sprinkler pipes must be painted red? We are installing sprinklers in a rooflight and may want to paint the pipes a less noticeable colour.

Joe: BS EN 12845 Sprinkler Rules does not mandate that sprinkler pipes must be painted. If there is a requirement (i.e. in the job specification) to paint services for pipeline identification then use: BS 1710:2014 the British Standard for the identification of pipelines and services, specifying colour codes, labelling, and supplementary information for safe and clear pipe marking. BS EN 12845 states:

> ***17.1.7 Painting***
> *Non-galvanized ferrous pipework shall be painted if environmental conditions make it necessary. Galvanized piping shall be painted wherever the coating has been damaged, e.g. by threading.*
> *Note: Extra protection might be needed for unusually corrosive conditions.*

And in the maintenance section it states:

> ***20.3.2.4 Pipework and pipe supports***
> *Pipework and hangers shall be checked for corrosion and painted as necessary.*
> *Bitumen-based paint on pipework, including the threaded ends of galvanised pipework and hangers, shall be renewed as necessary.*
> *Note: Bitumen-based paint might need renewal at intervals varying from 1 year to 5 years according to the severity of the conditions.*

Accordingly, where no project-specific identification requirement dictates otherwise, the pipework may be finished in a colour that blends with the rooflight or surrounding construction. Ensure that any coating is suitable for the pipe material and does not impair sprinkler components, identification, inspection or maintenance.

PS. Just a note about sprinklers in rooflights from BS EN 12845 you should be aware of:

> ***14.4 Sprinkler temperature ratings***
> *Sprinklers shall be chosen with a temperature rating close to but no lower than 30°C above the highest ambient temperature.*
> *In unventilated concealed spaces, under skylights or glass roofs tc., it might be necessary to install sprinklers with a higher operating temperature, up to 93°C or 100°C. Special consideration shall be given to the rating of sprinklers in the vicinity of drying ovens, heaters and other equipment which gives off radiant heat.*
>
> *Note 1: Under normal conditions in temperate climates a rating of 68°C or 74°C is suitable.*
> *Note 2: Sprinklers are colour coded in accordance with EN 12259-1 to indicate their temperature rating as specified in Table 37b.* ■

To submit an enquiry or questions to Joe visit the BAFSA website at bafsa.org.uk

Protection of our built heritage



In April 2026, Scottish Ministers recognised a need for stronger fire safety measures in certain existing buildings being converted into hotels, and introduced requirements for improved fire compartmentation and sprinkler systems. But with the Glasgow Union Street fire in March this year demonstrating how quickly a serious incident can threaten historic buildings, businesses, and the wider vitality of a city centre, should similar measures now be considered more broadly? The issue goes beyond hotels, writes Stewart Kidd

UK building regulations stipulate rigorous fire safety standards for new buildings and buildings undergoing a change of use. Applying these to historic and listed properties requires care and sensible interpretation. The principal legislation[1] includes the Building Regulations 2010 (as amended), the Regulatory Reform (Fire Safety) Order 2005, and guidance documents such as Approved Document B and BS 9991 and BS 9999.

For heritage properties. compliance often involves negotiation with local authorities, Historic England/Historic Environment Scotland/CADW and conservation officers, especially regarding alterations that may affect the building's appearance and character. Exemptions or alternative approaches to providing for the safety of occupants may be appropriate where standard solutions would compromise historic values, provided the risk is otherwise mitigated.

Recent fires

Fires in historic buildings and cultural resources are never long out of the news and their impact resonates well beyond the immediate loss of the asset. The loss of public buildings such as the Glasgow School of Art generated international concern and left many Glaswegians with a sense of loss of a much-loved friend. In the Spring, also in Glasgow, there was a serious fire in the range of buildings at the junction of Gordon Street and Union Street. The four/six/ storey, Category B building dated from 1851 and was described as 'iconic' by members of the Scottish Parliament and Glasgow City Council. This fire has similarities to the 2002 Edinburgh Cowgate fire.

The building's ground floor contained a number of retail and service business including a vape shop where the fire reportedly started. The upper floors contained offices and many businesses were made homeless. The building abutted Glasgow Central Station, Scotland's busiest and rail services were impacted for more than two weeks. Most of the building has had to be demolished for safety reasons and the Scottish Government made £1 million available for this work and has promised another £10 million to support local business and tenants.

Many of those commenting on the wider impact of the fire seem to have overlooked the consequences of previous serious city centre fires in in historic buildings in Scotland. The December 2002 fire in Edinburgh's Cowgate affected more than 13 conjoined structures, some dating from the 18th century, including a former department store which had been subdivided into many smaller retail units. Fire spread was facilitated by hidden voids and shafts and the lack of any fire resisting compartmentation.

Both of these fires demonstrate the serious problems in managing fire safety in traditional buildings which have undergone relatively uncontrolled changes of use, more specifically, where modern standards of fire safety have not been introduced when conversions have been undertaken.

In April 2026 Scottish Ministers recognised that there was a need to provide specific fire safety improvements in certain types of existing buildings which were being converted to use as a hotel. The measures required improved fire compartmentation and the installation of sprinkler systems. [2]

Perhaps the recent Glasgow fire, with its impact on both the built environment and city centre commerce and culture might suggest there is a need to review whether such measures should be more widely provided?

Challenges in adaptive reconstruction

Adaptive reconstruction, including refurbishment or change of use, introduces

Principles for fire protection system integration

All changes to heritage buildings must be:

1 Essential
Systems should address genuine fire risks, avoiding unnecessary complexity.

2 Appropriate
The choice of system must suit the building's layout, materials, and occupancy.

3 Compliant
Installations must satisfy statutory requirements and recognised standards. System reliability must be ensured through third party certification systems.

4 Minimally Invasive
Works should cause minimal disturbance to historic fabric.

5 Sensitively Integrated
Components should be discreet, maintaining visual harmony.

6 Reversible
Systems should be removable without permanent alteration, where feasible.

These principles should particularly guide the design and installation of automatic fire suppression systems, ensuring heritage buildings as well as their occupants are protected without compromising their historical value.

> **"The conversion of a historic mansion into a hotel may require a holistic solution involving passive measures, active detection and a bespoke suppression system"**



Above The December 2002 fire in Edinburgh's Cowgate affected more than 13 conjoined structures, some dating from the 18th century

© Sandy Young/Alamy

Best practices and recommendations

1. Engage fire safety professionals and conservation specialists early in the planning process.
2. Conduct comprehensive risk assessments, identifying genuine fire hazards and suitable mitigation strategies.
3. Choose fire suppression systems that are compliant, minimally invasive, and reversible.
4. Ensure installations are sensitively integrated, preserving the building's character and significance.
5. Regularly maintain and review systems, adapting to changing uses and risks.
6. Document interventions and collaborate with regulatory authorities and insurers to ensure ongoing compliance.



significant fire safety challenges. Listed buildings often lack compartmentation, have excess combustible materials, and feature complex layouts. Introducing modern fire suppression systems may be constrained by structural limitations and preservation priorities, and regulatory oversight.

Any fire safety solutions must be carefully tailored to address problems of hidden voids, inaccessible spaces, and the need to avoid excessively invasive works. For example, the conversion of a historic mansion into a hotel may require a holistic solution involving passive measures, active detection and a bespoke suppression system. All three requirements must fit alongside existing architectural features without detracting from their appearance.

Balancing conservation and safety

The conservation approach seeks to minimise intervention, preserving the authenticity and integrity of historic buildings. However, levels of fire safety must not be compromised. The challenge is to achieve a balance: safeguarding occupants, firefighters and assets while respecting the building's character. This may involve reversible, minimally invasive installations, such as concealed pipework, wireless detection systems, or surface-mounted sprinkler heads with period-appropriate finishes. Early dialogue between conservation architects and fire engineers, can ensure that solutions are both effective and sympathetic to heritage values.

Significant advantages

Automatic fire suppression systems (AFSS), particularly water-based systems, offer significant advantages in a heritage context. AFSS can compensate for deficiencies in compartmentation, separation, smoke control and complex or excessive escape travel distances. They will provide rapid response; minimising fire spread and damage and often allow for greater flexibility in conservation-led refurbishment. Automatic fire suppression will also provide a measure of extra safety for first responders.

Historic Environment Scotland's *ACOP Guide for Practitioners No 6*[3] suggests that automatic fire suppression systems can play a key role in enabling changes of use through alternative compliance enabling heritage buildings to find new uses and meeting legislative requirements while preserving their character.

Limitations and considerations

Despite their benefits, automatic fire suppression systems may present certain limitations. Technical challenges include locations for water storage, access for pipework installation, compatibility with existing structures, and the need for ongoing maintenance. There are also cost implications. Thorough risk assessment and stakeholder consultation (including with the fire and rescue service and insurers) will help ensure systems are both effective and appropriate.

Fire suppression in historic and heritage buildings demands a nuanced approach, balancing safety, conservation, and regulatory obligations. Applying good adaptive reconstruction principles and leveraging proven technologies, property managers, architects, and fire safety professionals can collaborate to protect life and heritage values for future generations. ■

Stewart Kidd MA, MSc, FIFireE, FIFSM, FSyI, CPP is a Chartered Security Professional for Loss Prevention Consultancy Ltd. stewartkidd@me.com

Footnotes:

1. In England, the devolved jurisdictions have different but similar legislation.
2. *Building Standards Technical Handbooks 2026: Summary of changes for 6 April 2026* (https://bit.ly/4jjSS0N)
3. *Fire Safety Management in Traditional Building: Part 2, Chapter 4* (https://bit.ly/4s9882L). Under revision as at June 2026.

Three new CPD-approved courses for fire safety professionals

BAFSA is expanding its continuing professional development (CPD) offering with three new online programmes designed to strengthen communication, mentoring and professional practice across the fire sprinkler sector

With a focus on the practical challenges faced in real workplace and site environments, these new programmes from BAFSA provide learners with valuable skills and techniques that can be applied immediately to support effective working relationships, maintain compliance and promote safe outcomes. All three programmes have received CPD Certification Service (CPD CS) approval and will be available through the BAFSA Training Centre.

Effective Workplace Mentoring in the Fire Safety Sector

This self-paced, five-hour online programme provides a practical introduction to effective workplace mentoring and the skills needed to support colleagues' learning and professional development. The course explores how mentoring relationships are established, the communication skills that underpin successful mentoring, and the practical approaches that help mentors support learning across a range of workplace situations.

Learners will discover techniques and approaches they can apply directly in their own working environments. Throughout the programme, they are encouraged to reflect on their experiences, consider different mentoring scenarios and identify realistic ways to strengthen their day-to-day mentoring practice. Whether learners already support colleagues as part of their role or are preparing to take on greater mentoring responsibilities, the programme offers a valuable foundation for developing effective mentoring skills.

With an emphasis on positive, professional mentoring in real site conditions, the course provides practical guidance to support learning, collaboration and professional growth.

Duration: Five hours, self-paced online learning, BAFSA member fee: £60, Non-member fee: £90

Principles of Handling Safety-Critical, Difficult Conversations with Clients and Stakeholders in the Fire Sprinkler Sector

Effective communication is essential when safety, compliance and commercial considerations come into conflict. This 1.5-hour online programme focuses on the challenging conversations that arise between fire sprinkler installers, clients and other stakeholders.

The course examines real-world situations where professional judgement is required, including requests for changes, expectations that do not align with compliance requirements, pressures relating to cost, programme and scope, and challenges or misunderstandings surrounding technical requirements. Learners will develop practical communication approaches to help them explain constraints clearly, manage changes without losing control of scope, and respond calmly and confidently to challenge and frustration.

By addressing the relationship between technical integrity, commercial realities and client understanding, the programme aims to help professionals navigate difficult discussions while maintaining a clear focus on safety and compliance.

Duration: 1.5 hours, online, BAFSA member fee: £45, Non-member fee: £90

Principles of Handling Safety-Critical, Difficult Conversations for Installers Working in the Fire Sprinkler Sector

Designed specifically for installers, this three-hour online programme addresses the difficult conversations that can arise on site when safety, compliance and professional judgement are at stake. The course explores a range of practical scenarios, including pressure to proceed with work, conflicts between design and installation requirements, coordination with other trades, unclear responsibilities, concerns about competence, and issues involving testing, sign-off and escalation.

Through practical communication techniques, learners will develop the confidence to raise concerns clearly, maintain professionalism under pressure, reduce conflict and support safe, compliant outcomes. The programme places particular emphasis on positive, professional communication in real site conditions, equipping installers with approaches they can put into practice immediately.

By helping installers navigate challenging situations constructively, the course supports a culture in which concerns can be raised appropriately and safety-critical decisions are handled professionally.

Duration: Three hours, online, BAFSA member fee: £45, Non-member fee: £90

The programmes form part of BAFSA's commitment to supporting continuing professional development and helping those working in the fire sprinkler sector build the knowledge, communication skills and confidence needed to maintain high professional standards. ■

For further information and access to the courses, visit the BAFSA Training Centre at bafsa.org.uk/bafsa-training-centre

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No more parking the issue

It's time to get serious about the growing risk of fire in car parks and sprinklers need to be at the centre of the discussion, writes Tom Roche

Proposed updates to Approved Document B would increase the required fire resistance of multi-storey open-sided car park structures to 30 minutes (for those structures of between 5 metres and 18 metres in height) and up to one hour for car parks that rise above 18 metres. It's an acknowledgement, at last, that the fire exposure has changed, but while a stronger structure may stand for longer, that does nothing to stop a fire from spreading in the first place. That's the issue the industry needs to question and answer.

Cars are bigger than they were a generation ago. Heavier with plastics and combustible materials, the modern car burns hotter and faster. This isn't a discussion solely about electric vehicles, either. The old assumption that a car park fire would be limited to between one and three vehicles is no longer sound. Modern fire loads mean that, once a fire takes hold, it's far more likely the fire will spread to neighbouring vehicles. With more adjacent vehicles, that fire can keep spreading. As such, the window for intervention is narrowing.

This is where the proposal for an increase in fire resistance falls short. A more resilient structure is a worthwhile objective as it protects against building collapse and affords the Emergency Services more time to operate. However, if the fire can spread and the scale of that fire means firefighters cannot stop it, what will the extra time realise in terms of gain? It doesn't address the fundamental challenge: 'How do we stop the fire from spreading in the first place?'

Recent research commissioned by the Health and Safety Executive under the heading 'Real Fires: Open-Sided Car Parks' confirms what Fire and Rescue Services have been saying for some time now. Car park fires today develop faster, involve more vehicles and place greater demands



on built environment structures than the scenarios for which our regulations were originally written. The blaze at the Luton Airport car park in 2023 and the Kings Dock car park fire in Liverpool at the end of 2017 are prime examples of the impact of spreading fires.

Perhaps an element missing in the discussion is that not all open-sided car parks are equal. A slightly odd thing to say, but some car parks form part of critical infrastructure or local community assets. If they're lost or damaged such that their use is restricted, this in turn exerts an impact on other services. Consider the aforementioned Terminal Car Park 2 fire at Luton Airport. People talk about the scale of the event: the damage in terms of the number of cars lost and the costs involved to rebuild the structure. However, the discussion focused around the impact on the airport due to lost revenue, trade and general disruption to passengers is missing.

Some commentators may view this as being outside of the scope of regulatory guidance. Others may read it as an indication that these impacts are limited. Many will be stunned to learn that the figure reproduced in the Annual Accounts of Luton Airport detailing insurance recoveries for business interruption due to the fire and the additional cost of working stands at a substantial £49 million. That's not for the car park rebuild or the cars damaged. This is the impact on the business.

That's not the end of the story, either, as the sum mentioned doesn't include the entire timeframe through until the reopening of the rebuilt car park.

The fire at Addenbrooke's Hospital car park in Cambridge on 13 December last year illustrates this potential infrastructure impact. Caused by a mechanical fault in a diesel vehicle, the blaze spread to 12 vehicles and forced the partial closure of Car Park 1, leaving 77 spaces out of use well

> **"Many will be stunned to learn that the figure reproduced in the Annual Accounts of Luton Airport detailing insurance recoveries for business interruption due to the fire and the additional cost of working stands at a substantial £49 million"**

into 2026 at what is one of the UK's major hospital sites.

The fire itself was limited in scope, but required firefighters from several counties to attend to support the local Fire and Rescue Service in suppressing the blaze. It's a telling example of how, in the absence of early suppression, even a relatively modest vehicle fire can serve to exert larger impacts and lasting consequences.

Case is clear

The case for early intervention is clear. Blocking fires from spreading using barriers may be an effective strategy for limiting those fires to a manageable number of cars, although car park users may dislike the solution.

A fire suppressed in its early stages, before it has the chance to spread beyond the vehicle of origin, avoids all of those consequences. Automatic fire suppression systems such as fire sprinklers have proven to do precisely that. Evidence from protected car parks in the UK highlights fires being contained at an early stage, which is in stark contrast to unprotected facilities where fire episodes have escalated rapidly and caused structural damage.

Increasing structural fire resistance isn't the wrong answer, but it most certainly is the answer to an entirely different question. It leaves the question of what to do with the fire spread itself to be considered by the designers.

If we're serious about tackling the growing fire risk in car parks, we need measures that address fire spread directly and consider the relative importance of these car parks to our infrastructure and local services. Fire sprinklers should be a fundamental element of that conversation and of any updated regulatory guidance.. ■

Tom Roche is Secretary of the Business Sprinkler Alliance (business-sprinkler-alliance.org)



Below The fire at the Luton Airport car park in 2023

© Bedfordshire Fire and Rescue Service





Implementing TB203

BAFSA's new TB203 guidance document provides a framework for consistent inspection, reporting and maintenance of sprinkler water storage tanks. *Sprinkler Focus* gives an overview

Water storage tanks are a critical component of automatic fire sprinkler systems, providing the dedicated water supply necessary for effective system operation. To perform reliably when required, these tanks must remain structurally sound, free from significant deterioration and capable of delivering the required water supply throughout their intended service life.

BAFSA has developed a new Information File to support the practical application of TB203, providing industry guidance on sprinkler tank inspection, reporting and decision-making. The aim is to help ensure that inspections are carried out consistently, findings are assessed appropriately and any defects are followed up with suitable remedial action.

While TB203 establishes the inspection requirements, this new document is intended to explain how these requirements can be implemented in practice. It will provide a framework for competent inspectors to understand the purpose of individual checks, identify potential problems and communicate their findings clearly to system owners and users.

Although the guidance primarily addresses sprinkler water storage tanks, its underlying principles may also be applicable to tanks serving other fire protection systems, including wet risers, residential sprinklers and low-pressure water mist systems. However, the applicability of individual requirements must be considered in relation to the relevant system design, standards and intended application.

Structured approach

The proposed guidance centres on a structured inspection programme incorporating two-yearly and ten-yearly thorough inspections. These regimes are intended to support the ongoing assessment of tank condition, helping identify deterioration before it compromises the reliability of the water supply.

Regular inspection is particularly important because defects may develop gradually and remain unnoticed during routine system checks. Corrosion, leakage, damaged components, obstructions and deterioration of tank materials can all affect a tank's ability to perform as intended. A consistent inspection process helps identify these issues, assess their significance and determine whether further investigation or remedial work is necessary.



This new guidance emphasises that inspection should not simply be a checklist exercise. Competent inspectors need to understand the tank's construction, original design basis, operating conditions and intended function. This context is essential when deciding whether a finding represents a minor maintenance issue, a defect requiring further investigation or a condition that could affect system performance.

The proposed approach also seeks to establish a common language for reporting findings, enabling inspectors, maintenance contractors, system owners and other relevant parties to understand the condition of a tank and the action required.

Tank construction and condition

Sprinkler water storage tanks are available in a range of constructions, including cylindrical steel, sectional steel, sectional glass-reinforced plastic (GRP), concrete, composite and mixed-material designs. Each presents different inspection considerations, depending on its materials, configuration, access arrangements and original design.

Steel tanks, for example, may require particular attention to corrosion, protective coatings, joints and connections. GRP tanks require consideration of the condition of panels, seals, fixings and other components, while concrete tanks may need assessment for cracking, deterioration and potential leakage. Composite and mixed-material tanks require an approach appropriate to the interaction between their different components.

Despite these differences, the underlying inspection principles remain consistent: the tank must retain its structural integrity and continue to provide the water supply required by the fire protection system.

Two-yearly and ten-yearly inspections

A key feature of the guidance is its focus on implementing the two-yearly and ten-yearly thorough inspection regimes. The two-yearly inspection provides an opportunity to assess the tank's condition, identify developing defects and establish whether components remain suitable for continued service. Inspectors should consider evidence of corrosion, deterioration, leakage, obstruction and other conditions that may affect structural integrity or water delivery.

The ten-yearly thorough inspection

> **"An inspection programme is only effective if its findings lead to meaningful action. Clear responsibilities, accurate records and effective communication between inspectors, contractors and system owners are essential to achieving this"**

provides a further level of examination in accordance with the applicable requirements. The extent and method of inspection will depend on the tank construction, its condition, accessibility and the relevant inspection criteria. Where necessary, additional investigations may be required to establish the significance of suspected defects or confirm that the tank remains suitable for service.

The distinction between these inspection regimes is important. The appropriate scope of work must be established by reference to TB203, the tank's design and the applicable requirements, rather than assuming that every tank can be inspected using an identical method.

The guidance is intended to explain the reasoning behind individual checks and support inspectors in carrying them out effectively. It should also help ensure that limitations are recognised and recorded, particularly where restricted access or other practical constraints prevent a complete assessment.

Competence and specialist support

The reliability of an inspection depends on the competence of the people undertaking it. The proposed guidance identifies a competent specialist sprinkler tank inspection or refurbishment contractor, or the original tank manufacturer, as the appropriate party to undertake the work.

However, some inspections may require additional expertise beyond that of a tank inspection contractor. Structural calculations, electrical testing, confined-space entry, diving, remotely operated vehicle (ROV) operations and non-destructive testing (NDT) interpretation may all require specialist competence, depending on the tank and the circumstances.

Recognising when specialist support is necessary is an important part of the inspection process. Inspectors should not make assumptions about structural adequacy or the significance of a defect where the available evidence is insufficient. Instead, findings should be documented and appropriate further investigation recommended.

This approach supports more reliable decision-making and helps ensure that technical conclusions are based on suitable evidence.

Consistent reporting and defect classification

An inspection report must do more than describe what was observed: it should help the system owner understand the implications of the findings and determine what action is required.

The draft introduces a consistent framework for categorising findings as the following: Not Applicable, Report, Pass, Partial Impairment or Full Impairment.

These categories are intended to distinguish between checks that do not apply, findings that need to be recorded, satisfactory conditions and defects that may affect the availability or performance of the fire protection system. Their precise application should follow the definitions and decision criteria established in the final guidance.

Consistent categorisation is particularly important when determining whether a defect has implications for system operation. A condition that requires routine maintenance should not automatically be treated in the same way as one that compromises the tank's ability to supply water. Equally, a potentially significant defect should not be overlooked simply because the tank continues to appear operational. Where an impairment is identified, the report should communicate its nature and significance clearly, together with any recommended investigation or remedial action. The system owner or user must then ensure that appropriate follow-up takes place in accordance with the applicable requirements and procedures.

Responsibilities, records and follow-up

It is of course the responsibility of end users to ensure that sprinkler systems are maintained in good working order. This includes arranging suitable inspections and maintenance, retaining appropriate records and ensuring that identified defects receive timely attention.

Inspection records provide an important history of tank condition. When maintained consistently, they can help identify recurring problems, track deterioration over time and support decisions about repairs, refurbishment or further investigation.

Reports should therefore provide sufficient detail to explain the findings, identify any inspection limitations and document the recommended next steps. Follow-up should be traceable, with outstanding actions monitored until they have been appropriately addressed.

An inspection programme is only effective if its findings lead to meaningful action. Clear responsibilities, accurate records and effective communication between inspectors, contractors and system owners are essential to achieving this.

By explaining the purpose of tank checks, setting out an approach to two-yearly and ten-yearly thorough inspections, and promoting consistent reporting, this new guidance document aims to support a more reliable and transparent inspection process.

The guidance document recognises that sprinkler tanks vary considerably in construction and condition, meaning that competent judgement and appropriate specialist support remain essential. At the same time, a shared framework for assessing defects and communicating their significance can help improve consistency across the industry. ■

The full guidance document can be downloaded from the resources section of BAFSA's website at bafsa.org.uk



Sprinklers tackle fires in the capital

Analysis of London Fire Brigade incident data highlights the role of sprinklers, water mist and drencher systems in limiting the impact of fires across residential, commercial and industrial properties, according to a new review of incident data from BAFSA's Nick Coleshill



A review of 32 reported fire incidents attended by the London Fire Brigade (LFB) has highlighted the contribution of Automatic Water-based Fire Suppression Systems (AWSS) in helping to limit the impact of fires across a range of building types.

The incidents, recorded between April and August 2026, involved properties where AWSS were reported as present and having an impact. The data, submitted to the Sprinkler Saves initiative, provides further insight into system activations, ignition sources and the types of buildings benefiting from suppression technology. Of the 32 incidents, 23 involved sprinkler systems, five involved water mist systems and four involved drencher systems.

Purpose-built flats and recycling plants feature prominently

Purpose-built flats and maisonettes accounted for nine incidents across two building categories. Seven fires occurred in purpose-built blocks of four to nine storeys, while two involved buildings of ten or more storeys. A further two incidents involved converted flats and maisonettes of three or more storeys.

The figures reflect the importance of fire suppression in residential buildings, where limiting fire development can provide occupants with additional time to escape or be rescued. The wider adoption of sprinkler systems in new and existing residential developments has also gained attention following changes in the fire safety landscape after the Grenfell Tower fire.

Recycling plants accounted for seven incidents, including five involving sprinklers, one involving water mist and one involving a drencher system. The findings underline the range of fire risks faced by industrial and waste-processing facilities, where combustible materials and damaged lithium-ion batteries can present significant challenges. Other incidents involved schools, hospitals, hotels, pubs, restaurants, prisons, student accommodation, warehouses and an underground car park.

Four incidents require further investigation

The review found that, in four incidents, the

> **"Cigarettes and smoking materials accounted for seven incidents, making this the most frequently recorded known ignition category. Cookers were responsible for four incidents, while batteries and generators accounted for three"**

active water-based suppression system did not contain or control the fire as intended. In one case, the sprinkler system was reportedly located on a different floor from the fire, which involved a roof fitted with solar panels. The remaining three incidents did not have sufficient information available to establish why the systems were unable to control the fire. Further investigation with the London Fire Brigade would help establish the circumstances behind these incidents and identify any lessons for system design, installation and maintenance.

The review also highlighted four incidents in which drencher systems were recorded. One involved a recycling plant, where such a system may be appropriate to the specific fire risk. Further examination would be needed to establish whether the systems recorded in the other incidents, involving a prison, shop and restaurant or café, were appropriate for their intended applications.

Drencher systems typically discharge water over a designated area, such as building façades, roofs or openings, to provide protection against fire spread or exposure to an external fire.

Key ignition sources

The incident data also identified a range of ignition sources. Cigarettes and smoking materials accounted for seven incidents, making this the most frequently recorded known ignition category. Cookers were responsible for four incidents, while batteries and generators accounted for three. Candles and tea lights were recorded in two incidents. Other identified sources included deep-fat fryers, industrial dryers, electrical faults involving vehicles, solar panels and other domestic or electrical equipment. Nine incidents were recorded as "not known/other", representing more than a quarter of the dataset. Further investigation would be required to establish the causes of these fires and improve the quality of future analysis.



The three incidents involving batteries and generators highlight the growing fire safety challenge associated with lithium-ion batteries. When damaged or improperly discarded, batteries can be crushed or punctured during waste processing, potentially triggering thermal runaway and a rapidly developing fire.

Number of sprinkler heads

Information on the number of sprinkler heads activated was available for 23 incidents. The review reports that 15 fires involved the operation of one or two sprinkler heads, representing approximately 65% of those incidents. This finding is consistent with the broader pattern identified in UK research published by Optimal Economics, which analysed 788 fire incidents. That research found that one sprinkler head operated in 65% of fires, while a further 20% involved two heads.

The limited number of heads typically activated can demonstrate how sprinkler systems are designed to respond locally to heat from a developing fire, helping to control its spread without necessarily requiring the entire system to operate.

Improving incident reporting

The Incident Recording System (IRS) provides fire services with a structured way to record information about incidents, including the type of suppression system present, whether it operated, the number of heads activated and its impact on the fire.

However, the quality of the analysis depends on the accuracy and completeness of the information entered by attending officers. Differences in training, experience and familiarity with suppression technologies can affect the identification of systems and the recording of their performance.

More complete reporting, supported by follow-up investigations where necessary, would help build a clearer picture of how AWSS perform across different building types and fire scenarios.

The review reinforces the role of automatic water-based suppression systems as part of a wider package of fire safety measures. While sprinklers and other systems can help reduce heat release and smoke production, they do not replace appropriate fire precautions, detection, escape provisions or additional measures for people who may be unable to evacuate independently. ■

More sprinkler saves

A wide range of incidents where sprinklers have been effective in containing, controlling and extinguishing fires have been recently reported to Sprinkler Saves from around the UK (sprinklersaves.co.uk)

South Wales

PORT TALBOT SCHOOL SAVED BY SPRINKLERS

On 22 July 2026, a fire at a primary school involving sandwich panels was prevented from spreading into the primary building following the activation of the building sprinkler system which contained and controlled the fire. Compco Fire Systems confirmed that six sprinkler heads activated, four in the main hall with the remaining two in an adjacent room, which contained and controlled the fire from spreading into the school building. The was extinguished by the fire rescue service using jets, turntable ladder and a water bowser. Thankfully, no injuries were reported.

Essex

ELECTRICAL FIRE SORTED BY ONE SPRINKLER

A low-rise residential building fire reported by Triangle Fire Systems Ltd saw one sprinkler prevent an electrical fire from spreading in the living room of a third floor flat. A pillow had been placed over one of the devices which then overheated and caught fire.

One concealed sprinkler head activated in the room of origin containing and controlling the fire, reducing fire growth preventing flash over and reducing property damage. No injuries were reported. On arrival of Essex Fire Rescue Service, it was confirmed that the fire had been extinguished by the activation of the sprinkler system.





Greater Manchester

RETROFIT PROTECTION IN HIGH-RISE FLATS

A sprinkler system in a 15-storey residential building in Eccles, extinguished a cooking-related fire in a one-bedroom flat before it could spread beyond the dwelling.

Greater Manchester Fire and Rescue Service was mobilised at 07:54 on 2 August 2026 following reports of a fire involving a 15-storey residential building containing 88 flats. Four fire appliances were dispatched to the incident. On arrival, the incident commander confirmed that the fire in a one-bedroom flat had already been extinguished following activation of the building's sprinkler system.

The fire involved cooking materials and was understood to have started as a chip-pan fire. The occupants evacuated the flat and reached a place of safety. No injuries were reported. Fire damage was limited to the room in which the fire originated, while minor water egress was reported in the flat immediately below.

The water egress also highlights the importance of planning for water management following a sprinkler activation. While water discharge can cause secondary damage, the consequences need to be considered alongside the potential damage and risks associated with an uncontrolled fire.

London

CONCEALED SPRINKLER EXTINGUISHES KITCHEN FIRE

A concealed residential sprinkler head successfully extinguished a cooking-oil fire in a London flat.

The incident reported by Rad Fire Sprinklers, occurred in a ground-floor flat within a four-storey residential building converted from a former office. The building was fitted with an automatic fire suppression system, which activated in response to rising temperatures in the kitchen and extinguished the fire involving hot cooking oil.

According to the incident report, the system operated as the fire developed. Rising temperatures at ceiling level caused the cover plate of a concealed sprinkler head to disengage from its housing, allowing the sprinkler head to drop into its operational position. As the temperature continued to rise, the heat-sensitive liquid inside the sprinkler's glass bulb expanded until the bulb shattered, opening the waterway. Water was then discharged onto the sprinkler's deflector, creating a spray pattern over the fire. The activation prevented further fire development, helping to limit damage and reduce the potential for fire spread beyond the room of origin.

Photographs supplied by Rad Fire Sprinklers provide a useful illustration of the system's performance. They show smoke staining on the cupboard doors directly above the seat of the fire and on adjacent walls and the ceiling, but no visible direct burning above or close to the ignition point. A distinctive area around the sprinkler head is also free from smoke staining, consistent with the localised washing effect of the water spray. These observations help illustrate how sprinkler discharge can affect fire and smoke damage patterns within a room.

The sprinkler installation was designed to comply with *BS 9251:2014, Fire sprinkler systems for domestic and residential occupancies – Code of practice*. The system was specified as Category 3, with coverage limited to the flats. Water was supplied through a shared pump and tank arrangement.



> **"An investigation found that combustible material had accumulated between laboratory worktops and ignited after being exposed to a nearby lit Bunsen burner"**

Greater Manchester

SCIENCE LESSON LAB FIRE

On 11 March 2026, Greater Manchester Fire and Rescue Service (GMFRS) attended a fire at a Greater Manchester college. The incident began during a science lesson when a member of staff detected a burning smell. An investigation found that combustible material had accumulated between laboratory worktops and ignited after being exposed to a nearby lit Bunsen burner.

The alarm was raised, the college was evacuated and, by the time firefighters arrived, the building's sprinkler system had activated. Three sprinkler heads contained and controlled the fire, preventing it from spreading beyond the laboratory. Firefighters extinguished the remaining fire and, thankfully, no injuries were reported. The college was closed for four days while the sprinkler system was reinstated and safety checks completed. Further work was required to restore the affected laboratory.

Hereford

FACTORY SPRINKLER SYSTEM CONTROLS LITHIUM-ION BATTERY FIRE

A sprinkler system at a food processing factory in Hereford contained and controlled a fire involving lithium-ion batteries in May.

Hereford & Worcester Fire and Rescue Service (HWFRS) attended the incident after a fire broke out in the factory's battery charging room. The building's wet-pipe automatic fire suppression system activated before firefighters arrived, helping to contain the fire and prevent further escalation.

The incident provides a practical example of how sprinkler systems can limit fire development in industrial environments, reducing potential risks to employees, responding firefighters, property and the wider environment. The fire service received the call at 14:32 hrs and arrived at the premises at 14:37 hrs. The incident was brought to a conclusion, with the stop message issued at 16:40 hrs. The activation of the sprinkler system before the arrival of the fire service highlights the importance of automatic fire suppression in controlling a developing incident.

To report a save visit sprinklersaves.co.uk and fill out the 'Report a Save' form or alternatively email nick.coleshill@bafsa.org.uk

EUROPEAN FIRE SPRINKLER NETWORK

Fire Sprinkler International 2027

MADRID



Fire Sprinkler International 2027

NH Collection Eurobuilding, Madrid

Wednesday 21st and Thursday 22nd April 2027

www.firesprinklerinternational.com

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A supporting role

CABE has a long association with BAFSA, as strong supporters of sprinklers in buildings where appropriate. Gary Strong, Technical Consultant at CABE looks at some of the most frequent questions its members ask about sprinklers

Members of CABE range from building control Registered Building Inspectors through to Chartered Building Engineers, residential surveyors, facilities management surveyors, environmental surveyors and more. With approx. 8,000 members (excluding academic and company partners) here in the UK and internationally, we are proud to support BAFSA in its work.

Some of the questions we often receive from CABE members is around guidance on the installation of sprinklers:

1 What are the barriers to the installation of a system in a new build or retrofit in an existing building?
2 How long would a typical retrofit installation take?
3 What are the average costs of installation (new build and retrofit) and, separately, maintenance costs?
4 What size water tank is required, and what size plant room is required?
5 How many sprinkler heads should there be? An often-cited example is hotel bedrooms – should there be more than one? What is the typical spacing?
6 How often should they be serviced/tested?
7 How long do pipes last before needing replacement?
8 How can plastic pipes be used for sprinklers in a fire situation?
9 How do we know it's actually going to work in the event of a fire?
10 Do they really suppress all fires?
11 Are there savings in buildings insurance if a sprinkler system is fitted?
12 What are the LPC Rules for sprinklers?
13 Why isn't the UK government mandating sprinklers in all schools (don't get me started!)?
14 Is that James Bond film scene setting off the sprinklers a mistake or not (you'll know the one!)?

Of course, many of these are in the manner of "how long is a piece of string" and very building specific. CABE Members love to understand the technical issues, and whilst not wishing to plough through volumes of design guides, British/European standards etc, as they are usually not designers/installers, they do wish to understand when something is or isn't possible, and when something doesn't look right.

Think of it as akin to owning a car – those with an interest in all things mechanical/electrical will often know enough about a car to know how it works and when something is not right. It's the same with automatic fire suppression systems for CABE Members – you don't need to be a



Sprinkler facts

It is useful to remind ourselves of some basic facts:

1 Sprinklers reduce injuries by at least 80%, reduce property damage by 90% and substantially reduce damage to the environment from fire

2 About 60% of fires in commercial premises are controlled when only four sprinklers are operating

3 Losses from fires in buildings equipped with sprinklers are one tenth of those in unprotected buildings

4 Fire sprinklers are widely recognised as the single most effective method for fighting the spread of fires in their early stages

5 Sprinklers can limit environmental issues due to water runoff from fire fighting

"So next time you see a CABE Member, feel free to take a bit of time out and help inform fellow professionals about the sorts of issues and feedback you come across daily and where they can help you too by steering clients in your direction. It may save lives one day"

specialist to have a good understanding and yet be able to confidently advise a client when specialist advice is required.

It is no good advising a developer on a conversion of a building to, say, residential use or to an hotel, if at the early pre-planning stage the development is not going to be viable because you do not have space for a water tank, or other means of ensuring sufficient water is available if the sprinkler system is activated. Similarly with a plant room – how much space is needed?

CABE's experience in later years is that sprinklers post-Grenfell are now being considered more and more by developers and clients, including social housing providers, not just because there may now be a regulatory requirement, but because they know end users of the building will be asking if there is such a system and if not, can it be retrofitted. This is particularly the case in blocks of flats. Enhancement of the valuation of assets is as much about public end user perception of wellbeing as it is about good design quality.

Logistics in the UK have become so important in recent years; witness the mammoth warehouses built by the likes of Amazon and supermarkets. Some of these large sheds may have very valuable contents, and so an automatic fire suppression system is vital. But if you are not an expert, does it look right? Anyone can caveat their building reports with "seek specialist advice" but that is frustrating for clients.

How can CABE and BAFSA and its members collaborate more to share knowledge? Articles in the CABE journal and webinars are to be encouraged. Case studies of actual installations, particularly retrofit with costs, and other issues your members come across in their daily work are incredibly helpful for the non-specialist building engineer or surveyor. If you have an idea for a case study or webinar, please contact *Technical.Enquiries@cbuilde.com* as we would love to hear from you.

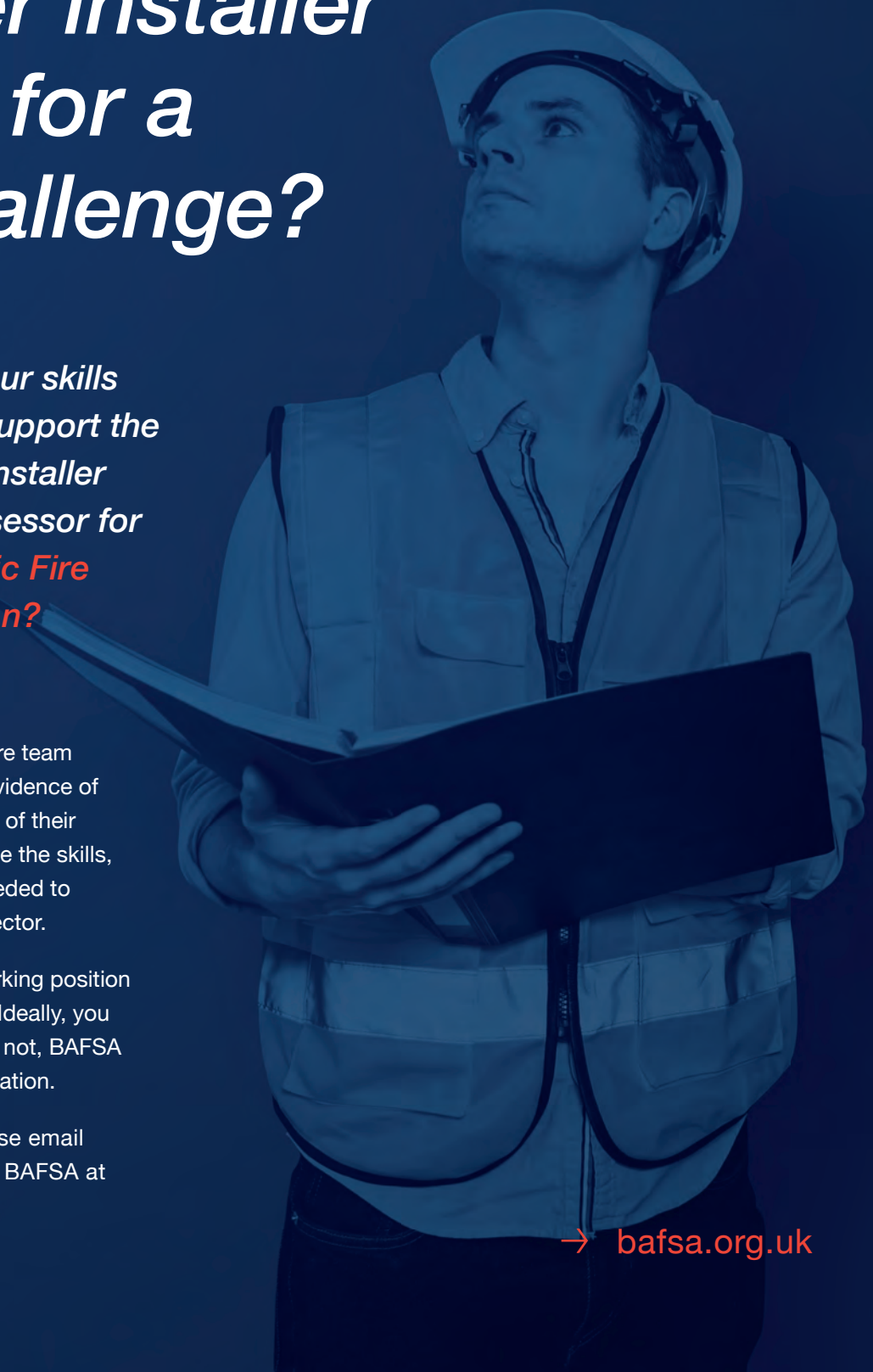
So next time you see a CABE Member, feel free to take a bit of time out and help inform fellow professionals about the sorts of issues and feedback you come across daily and where they can help you too by steering clients in your direction. It may save lives one day. A world with sprinklers in every building may not ever happen but now is an opportune time to ensure we work together to promote sprinklers and save lives and valuable buildings and contents wherever possible. Those tragedies we see in the media every week are often avoidable – how many more nightclub fires and fatalities must we endure before politicians are forced by the public to take action. In the meantime, let's collaborate and educate, it must be worth it.

Finally, CABE supports CROSS (Collaborative Reporting for Safer Structures UK) and we encourage all BAFSA members to report anything which industry would benefit from being shared. All confidential reports are considered by an expert panel and CROSS publishes reports on issues such as fire, which are also referenced in *Building Engineer*, the CABE monthly journal, and online at buildingengineer.org.uk. ■

Gary Strong BSc (Hons) FRICS FCABE C.Build E FCILA FCIArb has been a member of CABE for over 30 years and is well known to many members and across industry, particularly for his work as a chartered building surveyor at RICS in building safety reforms post-Grenfell. Strong currently chairs the UK government BAC Transfer Slabs committee developing industry guidance. He is a member of the CIC Building Safety Panel and the CROSS Fire Expert Panel and was responsible for establishing and chairing the International Fire Safety Standards Coalition (of which CABE is a founding member) at the UN in Geneva post-Grenfell.

bafsa

Are you an experienced fire sprinkler installer looking for a new challenge?



How about using your skills and knowledge to support the next generation of installer by becoming an assessor for the British Automatic Fire Sprinkler Association?

You will join our Learning Centre team assessing candidates' video evidence of competency submitted as part of their course modules to demonstrate the skills, knowledge and behaviours needed to succeed in this fast growing sector.

This is a part-time, remote-working position with flexible hours to suit you. Ideally, you will have an assessor award. If not, BAFSA will support you to gain certification.

For a full job description please email Ruth Oliver, Head of Training, BAFSA at qualifications@bafsa.org.uk

→ bafsa.org.uk

Choosing the right CSCS card for fire sprinkler professionals

Having the right skill card is increasingly important when working on major UK construction projects. Ruth Oliver BAFSA's Head of Training runs through the options

A construction skills card is no longer simply an identification badge used to gain access to a site. The modern CSCS card system is intended to provide evidence that an individual has the appropriate training and qualifications for the occupation they carry out. Through CSCS Smart Check, cards can also be electronically verified, allowing site teams to check the card scheme, occupation, qualifications and expiry information.

For fire sprinkler professionals, two specialist routes are particularly relevant:

- Industry SKILLcard, operated by the Building Engineering Services Association (BESA)
- JIB-PMES CSCS Registration, operated by the Joint Industry Board for Plumbing and Mechanical Engineering Services

Both operate within the wider CSCS Alliance ecosystem.The important question is therefore not simply: "Which card is better?" It is: "Which card most accurately demonstrates my occupation, qualifications and level of responsibility?"

That distinction has become increasingly important as the construction industry has moved away from the old Construction Related Occupation (CRO) card system and towards occupation-specific, qualification-based competence. Historically, some workers could obtain a CRO card where there was no suitable mainstream occupational card available.The problem with this approach was that a CRO card did not necessarily demonstrate that the holder was occupationally qualified or competent to carry out a specialist trade.



The industry has subsequently moved towards a model in which construction cards should provide meaningful evidence of occupational competence. For fire sprinkler professionals, this change is particularly significant.

SKILLcard's former Fire Sprinkler Installer CRO route has been withdrawn and replaced by a qualification-based route. JIB-PMES has also developed specific occupation categories and qualification pathways relevant to sprinkler installation and maintenance.

The direction of travel is therefore clear: The industry is moving from cards that primarily demonstrate site access towards cards that provide meaningful evidence of occupational competence. That means a sprinkler professional should

no longer choose a card simply because it is familiar, inexpensive or accepted on a particular site. The card should reflect the work the individual is actually qualified and competent to undertake.

Industry SKILLcard is the specialist skills certification scheme operated by BESA for the building engineering services sector. It covers a range of specialist engineering and building services occupations and provides a route for individuals working in specialist mechanical and building engineering environments.

For fire sprinkler professionals, SKILLcard has developed specific routes following the closure of the former Fire Sprinkler Installer CRO card. Working with BAFSA, SKILLcard established a qualification route based around the Level 2 Certificate in Fire Sprinkler Installation for the blue Fire Sprinkler Installer SKILLcard.

There are also higher-level sprinkler-related routes. The source material identifies:

- Blue Fire Sprinkler Installer routes for appropriately qualified installation personnel
- Blue Fire Sprinkler Engineer Installer routes supported by the Level 3 Award in Installation & Commissioning of Commercial Fire Sprinkler Systems
- Black Fire Sprinkler Design routes associated with the Level 5 Diploma in Fire Sprinkler Design

This creates a pathway in which the card can reflect not only the fact that an individual works in construction, but the particular specialist sprinkler occupation and qualification they hold.

What is JIB-PMES?

The Joint Industry Board for Plumbing and Mechanical Engineering Services operates the JIB-PMES CSCS Registration Scheme. Despite sometimes being described informally as a plumbing card, JIB-PMES is not limited to generic plumbing. Its structure covers a range of plumbing, mechanical engineering and related specialist occupations, including:

- Plumbers
- Heating fitters
- Mechanical pipe fitters
- Gas engineers
- PMES supervisors
- PMES managers

Importantly for the sprinkler industry, JIB-PMES has a dedicated: Fire Prevention and Sprinkler System Installation and Maintenance Fitter occupation. The published qualification routes identified in the source material include sprinkler-specific qualifications covering areas such as domestic and residential sprinkler installation, commissioning, servicing, maintenance and residential sprinkler system design. This means that a sprinkler professional working within the JIB-PMES structure does not necessarily need to rely on a generic plumber or mechanical pipe fitter card simply because their work involves pipework. The occupation can be specifically identified as sprinkler-related.

Both schemes provide specialist routes relevant to fire sprinkler professionals. The real difference is how each scheme fits an individual's:

- occupation
- qualifications
- career pathway
- employer
- level of responsibility
- type of work
- and the requirements of the projects on which they work.

Card colours

One of the biggest misconceptions about construction skills cards is that the colour tells an employer everything they need to know.It does not. A blue card will generally indicate a skilled-worker route, while gold and black cards can represent higher levels of responsibility depending on the scheme and occupation.

But the colour alone does not establish competence in a particular trade. A blue Fire Sprinkler Installer card identifies a specific occupational route. A blue card for a completely different occupation does not automatically demonstrate competence to install fire sprinkler systems.

The same principle applies to higher-level cards. A gold or black card should not simply be interpreted as evidence that someone is competent to undertake every technical or managerial function within fire protection.

CSCS Cards: A practical decision guide

If you are a qualified fire sprinkler installer
Look for an occupation-specific skilled-worker route such as the relevant SKILLcard Fire Sprinkler Installer route or JIB-PMES Fire Prevention and Sprinkler System Installation and Maintenance Fitter route. Which is appropriate will depend on your qualification, employment circumstances and the requirements of the sites on which you work.

If you commission, service or maintain sprinkler systems
Check the card requirements against your actual responsibilities and qualifications. Do not assume that an installation card necessarily represents commissioning or maintenance competence.

If you supervise sprinkler installers
Look at the appropriate supervisory route and ensure that the underlying qualification and occupation reflect your level of responsibility.

If you manage sprinkler projects
Consider the appropriate management or project-engineering occupation rather than simply retaining an installer designation.

If you design sprinkler systems
Do not automatically apply for an installer card. Investigate the relevant design or project-engineering occupation and qualification route. SKILLcard's current scheme documentation includes specialist Fire Sprinkler Design/Project Engineer occupations, while the wider JIB-PMES structure also provides routes for higher levels of responsibility.

CSCS Smart Check

Digital verification has changed the way construction cards are checked. CSCS Smart Check is designed to allow sites to electronically verify cards carrying the CSCS logo. It can provide information including:

- card scheme
- card type
- qualifications
- expiry date
- whether the card is genuine and current

This is particularly useful for specialist trades such as fire protection. A site manager no longer has to rely solely on looking at the colour and wording printed on a physical card. Electronic verification can help establish whether the card is current and whether the qualifications recorded against it are appropriate. For contractors and principal contractors, electronic verification addresses several practical problems.

A visual inspection cannot necessarily identify a card that:

- has expired
- has been revoked
- has been obtained fraudulently
- does not contain the appropriate occupational qualification
- does not correspond with the work being undertaken

Digital verification provides a stronger way of managing workforce competence. For major construction projects, this can create a clearer audit trail showing that individuals entering the site have been checked against the relevant certification system.

This is especially important for safety-critical trades.

Contractor requirements

There is an important distinction between having a valid card and being accepted for a particular project. A CSCS-logo card does not automatically guarantee access to every construction site. Individual projects may have their own competence requirements, and principal contractors may specify:

- acceptable card schemes
- required occupations
- minimum qualifications
- supervisory requirements
- health and safety requirements
- additional site training
- project-specific competency requirements

A contractor may therefore accept both SKILLcard and JIB-PMES, while another project may have a preferred route. Before paying for a card, sprinkler professionals should establish what the relevant employer, principal contractor and project actually require.

This can prevent the common mistake of obtaining a card that is technically valid but does not satisfy the access requirements of the site where the individual intends to work.

Moving forward

The direction of travel across UK construction is increasingly towards demonstrable occupational competence. The days when a generic construction-related card could provide sufficient evidence of capability in a specialist trade are disappearing.

For fire sprinkler professionals, this is particularly significant. Sprinkler systems are safety-critical installations. The people who install, test, commission, maintain, design and manage those systems need competencies appropriate to their responsibilities.

The development of dedicated sprinkler qualifications and occupation-specific card routes reflects this principle. Digital verification strengthens the process further by allowing site teams to check whether a card is genuine and current and to review the qualification information associated with it.

The result is a clearer chain between – Qualification > Competence > Occupation > Card > Site Verification. That is ultimately more valuable than simply possessing a particular coloured card. ■

At a glance

Factor	Industry SKILLcard	JIB-PMES
CSCS Alliance framework	Yes	Yes
Specialist mechanical/ building engineering focus	Strong	Strong
Fire sprinkler installation route	Yes	Yes
Sprinkler-specific qualifications	Yes	Yes
Sprinkler installation	Yes	Yes
Commissioning/maintenance	Relevant routes depending on occupation and qualification	Specifically recognised within sprinkler-related pathways
Supervisory routes	Yes	Yes
Management routes	Yes	Yes
Specialist design/ project engineering routes	Available for specified occupations	Relevant design qualifications can support appropriate routes
Digital verification	CSCS Smart Check	CSCS Smart Check
Best selection criterion	Match occupation and qualification	Match occupation and qualification

BAFSA Conference and AGM 2026

An at a glance guide to BAFSA's conference on 19 November 2026

12:00–1:00pm

Buffet lunch and exhibition in the Warwick Suite

1:15–1:30pm

Welcome and presentation of Student of the Year Awards 2026

Russell Dixon, Chairman of BAFSA

1:30–1:50pm

National Suppression Centre of Excellence: A New Era for Fire Protection Competence

Dale Kinnersley, Principal Consultant Fire Protection Association

BAFSA, the Fire Protection Association (FPA) and RISCAuthority are collaborating to create the National Suppression Centre of Excellence, a landmark facility designed to enhance understanding, competence, and confidence in fire suppression systems across the construction and built environment sectors.

1:50–2:20pm

KEYNOTE | Building Safety: Lessons from Grenfell and the Challenges Ahead

Peter Apps, Author and Journalist

Pete Apps will discuss the root causes of the Grenfell Tower and talk about the changes since the fire, how far we have gone and what we still need to do. He will give his thoughts on sprinkler protection, the reluctance to retrofit sprinklers and what the industry needs to do to influence change.

2:20–2:50pm

PFAS Regulation and Firefighting Foams: UK, EU and Global Developments

Robert Thilthorpe, Technical Manager FIA

Robert Thilthorpe will provide an update on the rapidly evolving regulatory landscape surrounding PFAS and firefighting foams. The presentation will examine current and emerging UK and EU regulations, key phase-out timelines, and the potential implications of wider PFAS restrictions for the fire protection industry. It will also explore the transition from fluorinated firefighting foams to fluorine-free alternatives, highlighting the challenges for manufacturers, users and fire safety professionals.

2:50–3:15pm

Coffee break in Warwick Suite

3:15–3:45pm

Evolving Sprinkler Protection for Modern Storage and Emerging Fire Risks

Stuart Lloyd, Global, Practice Leader – Fire Protection, Zurich Insurance

Stuart Lloyd will examine significant recent developments in fire protection research and standards relating to storage occupancies and emerging fire hazards. Particular focus will be given to the industry's move away from foam-enhanced protection concepts for plastic rack storage, reflecting a growing reliance on proven water-based sprinkler systems and updated protection philosophies.

3:45–4:10pm

Counterfeit Fire Sprinklers: A Hidden Threat to Life Safety

Mark Fessenden, Managing Director, IFSA

Fire sprinkler reliability is a life safety imperative, yet counterfeit and noncertified sprinklers are increasingly entering the global supply chain. In this presentation, Mark Fessenden, Managing Director of the International Fire Suppression Alliance (IFSA), will examine the risks posed by counterfeit sprinklers, drawing on real-world investigations in China and Brazil where non-certified devices were found to have serious deficiencies in materials, activation, water distribution, corrosion resistance and fire performance.

4:15–5:00pm

Panel Discussion: Building a Resilient Fire Suppression Sector

Ruth Oliver, Head of Training and Skills and Development, BAFSA
Alan Brinson, Executive Director, European Fire Sprinkler Network
Dr Dale Kinnersley, Principal Consultant, The Fire Protection Association
Stuart Lloyd, Global Practice Leader, Zurich Insurance Mark Fessenden, Managing Director, IFSA

A resilient fire suppression sector is one that can anticipate, adapt to, respond to and recover from changing risks while continuing to protect lives, property, and critical infrastructure. How does the panel think we as an industry can achieve this?

5:00–5:30pm

BAFSA AGM

BAFSA Members only

Forest of Arden Hotel, Birmingham | 19th November 2026

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