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health, safety and wellbeing in the built environment



Building safely with modular

Weighing up the safety pros and cons of modern methods of construction



Principal designer competency scheme • Better firestopping • Mental health

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Safety for helmets





Liability risk of dual dutyholder roles page 18



CPD: Improving fire doorset safety page 24

Member profile

page 20

I like knowing we're focusing as a team on making the process safe for people to use and operate and that we all want everybody going home safe at the end of the day Kevin Bainbridge, WSP





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While we aim to use images that demonstrate best practice in this magazine, some are for illustrative purposes only.

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Welcome

As we emerge blinking into the spring sunshine, the association is gearing up to get back out and about with a series of face-to-face events, says **Lesley McLeod**

Spring is all around and, finally, everything is waking up after the winter. At the Association for Project Safety (APS) we're gearing up for a busy season of events and activities built around the things you told us matter most to you.

The association is going back on the road around our regions. You told us how keen you were to meet up face-to-face and we promised we would deliver – so you should start looking out for live events coming closer to home.

We'll be kicking off in England South with an event in London at the end of April. APS is very grateful to our regional supporters – and we catch up with Kevin Bainbridge in the member profile – for keeping the show on the road when we were office-bound.

But, just because you've not seen much of us, doesn't mean there's not been a lot going on as you'll see in our article from Sam Allwinkle. Sam is our independent chair and an expert in how people can prove their competence. He, and our own Andrew Leslie, have designed a way industry professionals can demonstrate they've the right



Lesley McLeod Association for Project Safety

APS is very grateful to our regional supporters for keeping the show on the road stuff to take on the principal designer building regulations roles opening up as a result of the Building Safety Act. We'll be doing more on this separately so keep an eye on the website.

APS is also going to take a deeper dive into those subjects about which we get the most questions. We'll have more on sustainability, artificial intelligence in the built environment and design risk management.

Our legal feature makes a start by looking at dual liability. It's a very complex field and good to have it untangled so everyone knows where they stand. And worth remembering, as Philip White says, how the new building safety regulator will be keeping a weather eye on enforcement on those rare occasions when things go wrong.

Unashamedly, we are also looking at more issues around fire safety – from the slow progress we've been making sorting out cladding problems since Grenfell, an eye-opener about firestopping and our detailed CPD feature on doorset safety.

There will also be more about offsite building – something we are

all going to have to master if the industry is to rise to the challenge of building more and building faster. In this edition of the magazine Stephen Cousins highlights many of the issues with modular building. His piece walks you through what happened when the government had to step in to knock down unsafe schools. But the focus is definitely on how offsite building can be transformative – if we get it right.

That'll have its own knock-on effects as Anthony Taylor of the Building Safety Alliance explains when talking about work on safety in the occupied sector and the competencies necessary for improving and managing those higher-risk residential buildings.

It's all a bit overwhelming. APS is always on your side and we will be supporting the Lighthouse Construction Industry Charity throughout the year. We want to help our friend Bill Hill make it easier to talk about wellbeing.

That's something we can all get behind! Grab a coffee and read on... Lesley McLeod is CEO of the Association for Project Safety.

ON-SITE SALLY SUPPORTS Mental Health Awareness Week

13 TO 19 MAY 2024





Golden thread guidance provides proportionate approach

The Building Safety Alliance aims to raise the game of the occupied sector

N ew practical and proportionate guidance that will steer managers and owners of high-rise and higher-risk residential buildings to comply with maintaining a golden thread of information is set to be published by the Building Safety Alliance.

Maintaining a golden thread is a requirement of Part 3 and Part 4 of the Building Safety Act (Part 4 covering 'accountable persons' duties) which came into force in January 2024 in England. It will need to be in place for both new and existing buildings.

Anthony Taylor, chair of the Building Safety Alliance which was set up to raise competence and provide guidance for all those engaged across the occupied residential sector, said: "I think landlords have been struggling with the idea of the golden thread – there has been a lot of misinformation out there and many looking to jump on the commercial bandwagon.

"What we are hoping to do is provide pragmatic and practical guidance on the level of detail of the verification process while gathering information in existing buildings that meets legal requirements. We want to bring clarity to the building We want to bring clarity to the building risk assessment process, which is currently causing a great deal of confusion Anthony Taylor, Building Safety Alliance risk assessment process, which is currently also causing a great deal of confusion."

The Department for Levelling Up, Housing and Communities (DLUHC) clarified in October 2023 that documents to be included for the golden thread specifically include fire safety information, as well as information relating to structural safety and information required by clients after works undertaken under the competent persons scheme.

The department restated that it is not mandating one single IT system for the golden thread. It said: "The government is not proposing the use of a single system, but that information and documents should be able to be transferred electronically to others."

The Building Safety Alliance is also to publish two more sets of guidance: • *BSAS01:2023* – an organisational capability management system standard for managing competence (which the BSI has agreed to turn into a full standard); and

• regarding competence expectations for those specifying, improving and managing high-rise and higher-risk residential buildings.

Taylor said that changes in force under the Building Safety Act were

taking landlords in both public and private sectors into new territory.

"Adopting these new requirements across their portfolio, including existing stock, requires new approaches to building management, integration of data and skilling up their teams so that they can ensure those they are appointing to undertake building and maintenance are properly competent to do the work," he said.

The work of the BSA sits alongside new building safety related standards in the pipeline to be published in 2024 by the BSI. BS EN ISO 19650-6 (health and safety information management) introduces guidance relating to the information management of health and safety information.

The BSI will also be formalising Flex 8670 into a full British Standard BS 8670-1 (Building Safety Competence Framework).

Meanwhile the new PAS 8700 (Modern Methods of Construction) is expected in the coming year (see page 12). ● Find out more about the Building Safety Alliance at https:// buildingsafetyalliance.org.uk or contact Anthony Taylor at anthony.taylor@resolvegroup.co.uk.

BSR 'will be a regulator with teeth'

Philip White stresses importance of enforcement role

hilip White, HSE's director of building safety (DoBS), has pledged that the Building Safety Regulator (BSR), which becomes fully operational during 2024, "will regulate with teeth".

White has been leading the work to establish fully the BSR in HSE since taking over from Peter Baker in April 2023. His position was made permanent in November 2023.

Writing in his latest blog, White said: "In our oversight for building safety in England, BSR is a regulator with teeth and will take proportionate enforcement action when dutyholders are found to be failing to meet the legal standards required by law under the Building Safety Act 2022.



Philip White HSE "I want to stress that the appropriate use of enforcement powers, including enforcement notices and prosecution, is important, both to secure compliance with law and to ensure that those who have duties under it may be held to account for failures to comply."

White pledged that the BSR would engage with industry "to help navigate the new approach to enforcement law: "Our focus will be to ensure that those who create risk take responsibility for controlling that risk and comply with the law.

"And I will be leading from the front to ensure BSR evolves into a bold and effective regulator equipped to deliver on its remit." At the end of 2023 the BSR unveiled its three-year strategic plan which sets out how it intends to carry out its building safety functions in the first three years of operation – April 2023 to March 2026 – and what it aims to achieve.

Strategic priorities include: • ensuring consistent standards within the building control profession;

• overseeing and driving improvements across the built environment;

• regulating the planning, design and construction of new higher-risk buildings; and

● regulating those who are responsible for managing risk in existing higher-risk buildings so that residents are safe. ●

In our oversight for building safety in England, BSR is a regulator with teeth and will take proportionate enforcement action Philip White, HSE

News in brief

Asbestos targeted by HSE

The HSE has announced a new campaign to tackle unsafe practice around handling and management of asbestos. Buildings inspected will include offices, factories, museums, schools, hospitals and places of worship.

It has also launched a campaign aimed at improving the understanding of legal duties involved with asbestos management. Asbestos exposure in Great Britain is still the single greatest cause of work-related deaths due to exposures decades ago.

Crane collapse

The jib of a Falcon luffing jib tower crane collapsed in mid January at a residential project site in west London. No injuries were reported.

The incident happened at a Durkan project for Network Homes to build 158 homes near Central Middlesex Hospital.

It is the second Falcon crane collapse in less than two months. On 28 November 2023, the jib of a Jaso J380PA luffing crane collapsed onto a site in Edinburgh, injuring two.

Right: Fire safety enforcement notices were issued at Hinkley Point C



The Office for Nuclear Regulation (ONR) has served enforcement notices for fire safety shortfalls to companies working at the Hinkley Point C nuclear power construction site in Somerset. The regulator issued four notices to licensee NNB Generation Company (HPC), contractors Bouygues Travaux Publics SAS and Laing O'Rourke Construction, which are the joint venture partners in BYLOR JV and REEL UK.

The notices require the firms to make improvements to address compliance shortfalls in and prevent reoccurrence at Hinkley Point C.



APS announces register for principal designers in England

Clients can check that their chosen firm has the appropriate competent staff for their project



he Association for Project Safety's (APS) new competency scheme and register will be launched in April 2024. It is open to all designers in England who are undertaking the role of principal designer (PD) and who need to be certified as competent.

The APS competency scheme is a structured process that allows designers to demonstrate they have the right competencies for the principal designer role introduced by the Building Regulations etc (Amendment) (England) Regulations 2023.

Competency scheme

The APS Competency Scheme is relevant to individual designers of all disciplines who are undertaking the role of PD. It will be assessed against a competency framework based on PAS 8671.

Following an application and successful assessment, designers will be included on a register of competent PDs within their area of specialism.

Any organisation which is the designer responsible for a building control application in England, and where there is more than one contractor as defined in the amendment to the building regulations, needs to ensure that it has competent PDs to undertake this regulatory function.



Professor Sam Allwinkle APS

A competency

framework should be adopted and designed using an outcomesbased approach Professor

APS register

The APS PD Building Regulation (PDBR) Register is open to members and non-members of the association.

This new scheme will be of interest to APS members who are also members of a professional design institute and already assessed by APS as competent to deliver CDM 2015 statutory dutyholder roles and non-statutory support/adviser roles to CDM clients and dutyholders.

APS will welcome applications to the APS PDBR Register from nonmembers who will be encouraged to combine their PDBR Register application with an application for membership of APS at incorporated membership (IMaPS) or certified membership (CMaPS) levels. Non-members can take up a discounted offer to join APS - and gain access to all the webinars, Sam Allwinkle, APS technical information and regional

The Building Safety Act and competence

The Building Safety Act received Royal Assent in April 2022. It is the largest and most significant piece of legislation for the built environment in England in over 50 years and will be a driver for raising industry competence.

While there is a new more stringent regime for buildings in scope, the competence duties are in reference to those working on all buildings. In August 2023, further statutory legislation was published requiring that: • dutyholders must demonstrate the competence of their workforce (ie, whole supply chain);

networking opportunities included in their annual membership.

APS membership - at IMaPS or CMaPS levels - is recognised by the UK construction industry as a benchmark of CDM 2015 competence.

All design work requiring a building control application, and where there is likely to be more than one contractor, requires a PD to be appointed. The APS register will include sections for competent PDs who have been assessed for non-higher-risk buildings and higher-risk buildings.

Reasonable steps

The APS PDBR register allows clients searching for a PD organisation to check that their chosen firm has the appropriately competent staff for their project. Clients can demonstrate they have taken the reasonable steps the law demands to ensure the people they appoint are competent.

Professor Sam Allwinkle, independent chair of the APS Board of Directors and professor emeritus at Edinburgh Napier University, said: "Improving competence of the workforce in the construction industry, individually and collectively, at all levels, is recognised as a major challenge across the functions of designing, constructing and using buildings. A competency framework should be adopted and designed using an outcomes-based approach." To learn more, contact Andrew Leslie at andrew.leslie@aps.org.uk. APS spring webinars will include topics relating to the Building Safety Act, including Principal Designer Competence Requirements -**Building Regulations England.** Details at www.aps.org.uk/events.

> dutyholders must ensure clients are aware of their duties before beginning work: and organisations must be able to demonstrate that individuals within their workforce are not working outside their competence.

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Making a visible difference on site

Bill Hill, CEO of the Lighthouse Construction Industry Charity, talks about the organisation's latest campaign to help mental wellbeing

ast spring, our charity unveiled a groundbreaking initiative aimed at uniting the construction industry behind a singular wellbeing programme. Today, after nine months of dedicated efforts, the Make It Visible campaign is making significant strides towards ensuring that wellbeing support is not just acknowledged but visibly present on every worksite.

This initiative emphasises that the industry's wellbeing, particularly emotional health, is a collective responsibility – bringing together contractors, clients and professionals to create a formidable force.

The campaign outlines a concrete plan of action while fostering a collaborative approach towards wellbeing. Key objectives are to:

- unify industry wellbeing projects into a major, recognisable movement;
- learn and publish best practices from both domestic and international sources;
- deliver promptly measurable
- improvements to workforce wellbeing;
- promote a proactive, preventative
- approach to wellbeing; and
- drive long-term cultural change,



Bill Hill Lighthouse Construction Industry Charity

fostering equality, diversity, inclusion, fairness and respect, to make construction an appealing career choice for the next generation. The driving force behind the

campaign is our dedicated Make It Visible onsite team, which has visited over 500 worksites and engaged with more than 30,000 site workers. These visits are a crucial component

I hese visits are a crucial component of the campaign, allowing us to connect with tradespeople, ensuring they are aware of support and how to access it.

Our research, in collaboration with Glasgow Caledonian University, indicates that trades and selfemployed individuals within the sector have the highest suicide rates. This underscores the importance of reaching out at grassroots level.

Our team comprises members from the trades themselves, sharing their personal struggles and making the message relatable and resonant.

In addition to delivering informative wellbeing 'Toolbox Talks,' our team sets up a stand with the Make It Visible van, providing a safe space for one-onone conversations about any issues with which workers may be grappling. Our team, through simple conversations, intervened with 147 workers experiencing suicidal thoughts, providing immediate support

Last year alone, our onsite team, through simple conversations, made a life-changing and life-saving impact. They intervened with 147 workers experiencing suicidal thoughts, providing immediate support and implementing positive interventions.

Since its launch in January 2023, the Make It Visible website has evolved into a portal offering information, advice and guidance for the entire industry.

Research-based content directs users to various support pathways, including onsite promotional materials and videos featuring real workers discussing issues such as stress, anger and anxiety. These authentic stories aim to inspire hope and convey the message that help is available.

As part of our ongoing efforts to diversify support pathways, we recently introduced a live online chat service, providing real-time wellbeing support from helpline advisers. This offers immediate help without the necessity of a telephone conversation.

We are also extending support to wellbeing champions and mental health first aiders, ensuring those who carry the emotional weight of the workforce are supported in managing their own wellbeing.

Make It Visible stands as a testament to the industry's commitment to fostering a culture of wellbeing, resilience and support. By joining forces, we are not just transforming worksites but creating a lasting impact on the lives of those within the construction industry. Visit www.makeitvisible.info to be a part of this vital movement. APS has been a great supporter of the Lighthouse Club for some time and will be working to strengthen those bonds this year with a series of joint events around the regions. See page 30 for more details.

Reach out for free, confidential support at 24/7 helplines: 0345 605 1956 (UK); 1800 939 122 (ROI). Or text HARDHAT to 85258 (UK) 50808 (ROI). Live chat services are available 9am-6pm via: lighthouseclub.org; constructionindustryhelpline.com; and makeitvisible.info.



Modern methods of safety management

The demolition of five modular schools has raised questions over the safety of modern methods of construction. But with the right approach to design and risk management, offsite projects are able to deliver on innovation without compromising on build quality or worker safety. **Stephen Cousins** reports

MMC

When the government unexpectedly forced schools in England to close in the summer due to the risk of collapse from reinforced autoclaved aerated concrete (RAAC) it rightly sent shockwaves across the nation. But the revelation masked another schools scandal which, though smaller in scale, arguably had equally serious implications for the education sector.

Just a couple of weeks after RAAC hit the headlines, it emerged that main buildings at two virtually brand new secondary schools and a primary school in England, all built using the latest modular, offsite construction methods, were being ordered to close with immediate effect.

Former schools minister Nick Gibb said issues with the structural integrity of the buildings, all constructed by the now defunct offsite contractor Caledonian Modular, prompted fears they would not be able to withstand extreme events, including severe weather or being hit by a vehicle.

Haygrove School in Bridgwater, Somerset, Sir Frederick Gibberd College in Harlow, Essex and Buckton Fields Primary School, near Northampton, have since been condemned to demolition. Earlier in 2023, two primary schools in Cornwall, only partly completed by Caledonian Modular when it fell into administration in March 2022, were completely demolished.

The Department for Education (DfE) commissioned the schools under its £3bn modular framework and has come under fire for allowing the failures, though it's still unclear where the responsibilities lie for signing off the projects. It is reviewing contracts and taking legal advice on how to recover costs.

The Caledonian Modular problems, although isolated, throw an unexpected spotlight on modern methods of construction (MMC). MMC is normally considered a safer form of construction because moving work offsite to a factory should result in higher-quality buildings less likely to fail. It also limits operatives' exposure to hazards on unpredictable building sites and requires less working from height. Left: Prefabricated elements are often heavy and need to be lifted using large cranes Below: Sir Frederick Gibberd College (top) and Buckton Fields Primary School Nevertheless project teams must get to grips with MMC systems and approaches that involve unique health and safety considerations, including key pinch points in design, installation and post-handover operation and maintenance.

Onsite installation can involve heavy loads and hazardous manoeuvres, while factories introduce their own occupational risks. MMC systems and products face challenges around testing and certification, as well as tightening building safety regulations, which have implications for procurement and programming.

"One of the biggest issues, which we find ourselves dealing with regularly, is ensuring that the materials we propose to use in our offsite manufactured solution are fit for purpose and have been properly MMC has benefits in terms of reducing time on site. You perhaps don't have as much hazardous and high-risk work, such as working at height Stuart Deans, Thomson Gray

tested and certified for use," says Martin Harvey, head of design and technical services at McAvoy.

He gives the example of suppliers that have products tested with masonry and hot-rolled steel but fail to consider testing for compliance in an offsite-manufactured scenario. "Ultimately this results in offsite manufacturers having to carry out a lot of testing of their own," he adds.

Backing innovation

Recent years have seen the government and private sector clients and contractors align strongly behind MMC, a catch-all term that encompasses anything from volumetric modular to twodimensional panelisation to kit-ofparts approaches, cross-laminated timber construction and more. ►





The weights and lifting strategies of our sub-assemblies and modules are considered and calculated from the outset through the development of the design Martin Harvey, McAvoy

Whitehall continues to drive MMC adoption through various multi-millionpound frameworks and initiatives, such as the presumption in favour of offsite on capital programmes and encouraging its use in official guidance on public sector procurement. But despite increasing momentum, some organisations have raised questions over the safety of offsite approaches. An article published last year by Inside Housing saw the government accused of "suppressing" a report that raised concerns about fire safety and structural integrity of volumetric construction.

The National Fire Chiefs Council issued a position statement at the end of 2022 outlining various concerns with modular buildings, particularly those employing volumetric construction and engineered mass timber products. It warned that buildings are being designed, approved and built "despite a lack of understanding about their performance" and called on the government to tighten rules for testing MMC and to embed competence standards for practitioners working with it.

These are worrying developments, but also uncommon and offsite construction is generally associated with better management of health and safety risk. Transferring more work to factories speeds up construction on site, which should reduce accidents associated with the large number of workers and intersecting trades on a traditional project. For example, single storey elements can simply be lifted into place in one piece, while ceilings can be constructed on the ground as part of the roof before being rotated and lifted onto the building.

Stuart Deans, senior associate for health and safety at construction consultant Thomson Gray, says: "MMC has many benefits in terms of reducing time on site. You perhaps don't have as much hazardous and high-risk work, such as working at height or repetitive tasks associated with musculoskeletal issues."





McAvoy Group's Merstham Park School (top) and its Ambulatory Care Unit for Northumbria Specialist Emergency Care Hospital

Heavy kit

Projects working with offsite systems must get to grips with the different processes and products ranging from pre-manufactured 3D and 2D primary structural systems, structural components and non-structural assemblies and sub-assemblies, such as bathroom pods.

Prefabricated elements are often heavy and need to be lifted on and off trucks and around the site using large cranes and other equipment. The use of heavy machinery and need for precise manoeuvres can introduce significant health and safety risk.

According to highly regarded offsite manufacturing specialist McAvoy, MMC demands a thorough assessment of lifting operations, considering factors such as load capacities, environmental conditions and operator competence. It also means factoring in traffic management and vehicular/people segregation.

"The weights and lifting strategies of our sub-assemblies and modules are considered and calculated from the outset through the development of the design in our digital model and our independent structural and lifting consultants," says Harvey.

Workers in traditional construction do not necessarily have appropriate skills and competencies to work with MMC. The DfE blamed poor workmanship for structural issues uncovered at the recently condemned schools. This perhaps highlights the need for properly trained labour on site.

As Greg Ward, senior associate for health and safety at construction consultancy Rider Levett Bucknall (RLB), explains, the crossover between manufacturing and construction means sometimes installers have either no, or limited, experience of construction sites.

"There are reasonable simple steps that can be taken to improve this, but it should include an awareness of CDM to ensure individuals understand their responsibilities," says Ward.

Design and procurement for MMC is typically pulled forward more than

traditional construction to ensure detailed design prior to the start of production in the factory.

This gives project managers and safety professionals the opportunity to take a more proactive stance on safety, getting advance buy-in from supply chains and partners and implementing risk assessments well ahead of planned works.

"We like to get the involvement of the manufacturer during RIBA stage two – when you can make big decisions on things like understanding the construction sequence – where cranes would need to go, where loads will be delivered on site and safe areas for laying down, etc," says Rory Bergin, partner at architect HTA Design, which has helped successfully deliver 12 modular buildings, including Europe's tallest modular tower in Croydon.

Devising robust safety measures in the early stages, which take in factory build processes, logistics, crane planning, site set-up etc, can ensure that the fast pace of offsite construction, so advantageous for project timelines, doesn't compromise the safety of workers.

However, the early-doors approach remains a challenge for an industry still unfamiliar with manufacturing principles. Peter Waxman, project director at construction consultancy Gleeds, says: "During RIBA stages the design is always evolving, client needs change, design requirements change, so knowing that a modular unit is going to work with your project is sometimes difficult... Modular construction is a lovely thing to aim for to save time and to win CDM brownie points, but does it actually work in the real world, because construction is a constantly evolving process?"

Risks relocated

Moving processes into a factory environment reduces exposure to risks on site, but it also transfers risk from one location to another, making it imperative to gain appropriate understanding and oversight of potential safety issues at manufacturing facilities.

Doing due diligence on suppliers in the factory can ensure they are competent to manufacture systems and have suitable health and safety practices. Additional supervision by the main contractor while they are on site can ensure standards are maintained throughout construction.

McAvoy underlines the importance of considering all operations, specifically lifting within the manufacturing facility, as part of the overall planning process. Its facilities are segregated into zones that are planned on a daily, and sometimes hourly, basis.

"Every operative is trained in the work being carried out in that area and all works have standard operating



Work on HTA Design's Ten Degrees scheme in Croydon involved craning in modular components to the 38 and 44 storey connected towers 66 Modular construction is a lovely thing to aim for, but does it actually work in the real world, because construction is a constantly evolving process? Peter Waxman, Gleeds

procedures to guide activities," says Harvey. "Regular toolbox talks and daily meetings help the entire workforce understand the activities planned within the factory."

Standing at the forefront of construction innovation, MMC buildings challenge traditional structural approaches and behave differently from regular buildings. This places the onus on diligent design and engineering to ensure long-term structural integrity and robustness against fire.

It may be easy to think of volumetric modules as like blocks of Lego that are simply stacked to create different building types, but in reality units must be carefully tailored to handle specific building loads. "A one-sizefits-all approach doesn't really work because then you end up with things which could be understructured or overstructured," says Bergin.

Prefabricated structures may require additional consideration around aspects such as impacts from the weather, including snow loadings, or from the surrounding environment. For example, a busy road causing consistent vibration or impacts from vehicles. Temporary works, needed to maintain structural integrity throughout construction, may be more demanding and, according to RLB's Ward, should be designed and incorporated into the design risk management and construction methodology.

Quality control

Factory production should ensure structural robustness through tighter quality control and tighter tolerances. Production-line repetition also raises the prospect that a defect in a single unit could be replicated across a batch. This has potential implications for long-term building safety. Quality checks are therefore key to picking any issues up in advance.

"Well-run businesses have very good internal QA [quality assurance] and often external QA," says Bergin. "It's important that warranty providers visit factories during production ► Designers need to consider not only the fire safety of the completed building but also the materials and any increased fire risk from the structure being partially complete Greg Ward, Rider Levett Bucknell

so you don't have a situation where something is delivered to site and somebody has to open it up to check it is what it is supposed to be."

MMC structures can create unique situations related to fire safety. Structural safety reporting body CROSS-UK has highlighted the potential for the concealed spread of fire and smoke inside extensive cavities within volumetric modular buildings. Furthermore, the Fire Brigades Union, which represents frontline firefighters, has raised questions about how fires spread in MMC buildings saying that, as a new method of construction, many of the risks are untested.

Collaborative engagement and having the right people at the table during all stages of design and construction – including the fire engineer, principal designer, manufacturer or contractor – can help break down designs and assess them against all aspects of fire.

Design software, such as BIM, is increasingly used in the world of MMC and can identify and visualise any clashes and gaps that could encourage the spread of fire.

"Designers need to consider the fire safety of the completed building, and also the materials. This includes composite materials, and any increased fire risk from the structure being partially complete – and therefore fire protection only partially installed," says Ward.

MMC products and systems must have the requisite fire testing certificates and documentation. This is a challenge in the UK where there is no unified system for testing the safety of construction products. Instead, assessment is based on conformity with performance requirements set down in various standards, which do not cover all products.

This affects all types of construction product, not just MMC. However, the latter is more onerous due to a lack of historical data and a significant body of knowledge on performance. This has implications for fire safety and insurable risks during construction and post-completion. Efforts to ramp up scrutiny include the introduction of forthcoming legislation on construction product testing. This is being developed following the publication in spring 2023 of *Testing for a Safer Future*, an independent review of the construction product testing regime led by Paul Morrell OBE and Anneliese Day KC, by the Department for Levelling Up, Housing and Communities (DLUHC).

Regulatory regime

The new laws will aim to ensure all construction products fall under a regulatory regime and are considered safe. There are additional requirements for a list of 'safety-critical products'.

In addition, the new building safety regime for higher-risk buildings, established under the Building Safety Act 2022, introduces a new product safety regulator, the Office for Product Safety and Standards. The law places an emphasis on understanding the design strategy to address fire and structural safety and construction products.

Another aspect of the Building Safety Act of particular relevance to MMC is Gateway 2, brought in in October 2023, which requires dutyholders to give greater consideration to procurement and approvals programming.

Dutyholders must now demonstrate to the HSE how they have determined that MMC systems are safe and produce appropriate test evidence and certification before they can obtain gateway clearance ahead of construction and occupation.

"If you're procuring, there's going to be a lot of emphasis on contractors to, for example, make sure they've engaged with the suppliers of whatever is going to be installed on site and that safety benefits are retained," says Deans.

Changes to regulation are critical, but guidance and standards also help the industry to develop and improve. The DLUHC, which champions the use of modular construction, recently commissioned a new publicly available standard (PAS) for homes built using



HTA Design's Ten Degrees project in Croydon MMC. Currently being developed by the British Standards Institution, the PAS will include recommended voluntary technical standards for various MMC categories, as well as quality assurance and compliance processes.

Considered alongside the many specific requirements of MMC builds, project teams now have a growing repertoire of resources needed to help them deliver safe and insurable offsite-constructed buildings. •

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Building safety: does dual dutyholder equal dual liability risk?

Exposure to risk needs to be understood by anyone undertaking dual dutyholder roles, explain **Olivia Jenkins** and **Tim Hillier** of Trowers & Hamlins



t has nearly been a decade since the Construction (Design and Management) Regulations 2015 (CDM) came into force. During that time, the Health and Safety Executive (HSE) has concluded nearly 200 prosecutions for CDM breaches, resulting in multiple custodial sentences and fines in excess of £16m being issued.

With those figures in mind dutyholders, undertaking the role of principal designer and principal Potential liability risks face dutyholders undertaking both roles contractor under CDM, could be forgiven for being deterred from simultaneously undertaking those roles under new secondary legislation to the Building Safety Act. Those rules increase statutory obligations and, for non-compliance, attract the additional possibility of unlimited fines and imprisonment.

We consider some of the potential liability risks that will need to be understood by anyone undertaking dual dutyholder roles.

CDM prosecutions

Fines imposed for CDM breaches over the past four years nearly tripled those recorded in the previous four years.

In October 2023 dutyholders, held responsible for breaches of CDM (and other health and safety legislation) during their management of a roof renovation project at Moonfleet Manor hotel in Dorset, were collectively fined more than £600,000 (including costs) after a slate tile came off the roof and fractured the skull of a three-year-old child.

The largest fine imposed for CDM breaches alone was issued in April 2022 and totalled £900,000. The case involved a worker striking a live underground cable with an excavator. A further fine was simultaneously issued to the same organisation for breaches of parallel duties under separate health and safety legislation

Any client, contractor, principal contractor or principal designer carrying out building work during the course of its business under CDM is likely to be particularly alarmed by the courts' willingness simultaneously to impose fines for breaches of CDM and separate legislation following the introduction of the Building Regulations etc (Amendment) (England) Regulations 2023 (BRAE Regulations).

BRAE Regulations

The BRAE Regulations apply to all construction projects that fall outside the definition of minor work (in Schedule 4 of the building regulations 2010). The regulations extend dutyholder obligations during the design and construction of buildings in relation to the: • competence of those undertaking

dutyholder roles;

• appointment of people with the necessary knowledge and skills;

planning, management

and monitoring of building work;

supply and gathering

of information; and

• cooperation of, and coordination between, the appointed project supply chain.

They also impose additional duties upon:

• dutyholders of buildings that are at least 18m in height (or which have at least seven storeys), and contain at least two residential units or care homes or hospitals (now known as higher-risk buildings); and

• those legally responsible for a higher-risk building, or for repairing and maintaining its common parts (as the assigned 'accountable person').

Obligations imposed upon principal contractors under the BRAE Regulations are more onerous than those imposed upon principal designers. This – coupled with the fact that the majority of recorded prosecutions by the HSE under CDM have involved contractors and subcontractors – is likely to act as a particular deterrent to contractors considering undertaking the dual role of principal contractor under CDM and the BRAE Regulations.

Dual liability under CDM and BRAE Regulations

Clients, contractors and designers will usually be the same on a construction project under CDM and the BRAE Regulations.

Published government guidance indicates an intention for principal designers and principal contractors to be also the same under CDM and the BRAE Regulations. They may not be willing to undertake dual roles in practice, however, given the potential financial and criminal sanctions available for non-compliance, which can include:

• criminal convictions involving: unlimited fines and up to two years imprisonment;

Principal designers and principal contractors may not be willing to undertake dual roles in practice given the potential financial and criminal sanctions available for non-compliance



Olivia Jenkins Trowers & Hamlins



Tim Hillier Trowers & Hamlins

Above: Dutyholders were fined more

after a slate came

Moonfleet Manor

hotel in Dorset and

fractured the skull

than £600.000

off the roof of

of a child

● 9(1)(b); ● 16;

- 25(1), (2) and (4); 26 to 44; and
- Schedule 2.

following sections of CDM:

unforeseen project costs and

delays following contravention notices

being issued requiring the removal or

rectification of building work; and the

refusal of building control approval

and completion certificates; and

civil liability for financial losses

Civil action under CDM and

Civil action to recover financial

losses cannot be pursued against

dutyholders by non-employees for

breach concerns duties set out in the

• 13(6) and (7);

• 22(1)(c) and (l);

breach of CDM alone, unless the

the BRAE Regulations.

BRAE Regulations

arising from breaches of CDM and

In principle, section 38 of the Building Act 1984 (the BA) separately enables a party to take civil action against a dutyholder to recover financial losses incurred as a result of breaches of building regulations. This would include the BRAE Regulations.

However, section 38 of the BA is not yet in force. Despite the passage of 40 years, no regulations have ever been laid to bring this section of the BA into force, and there is currently no indication when they will. Without section 38, there are no clear means by which a statutory cause of action can be pursued against a dutyholder for breaches of the BRAE Regulations alone.

There are alternative means by which civil action for damages could be successfully pursued against a dutyholder following breaches of CDM and the BRAE Regulations, including: • in statute – if the dutyholder's breaches also contravene other legislation under which a statutory cause of action is pursuable (for example under the Defective Premises Act 1972);



All dutyholders will benefit from taking proactive steps to ensure their exposure to risk is better understood and mitigated on each construction project they embark upon

 in contract – if a dutyholder breached express or implied contractual obligations to comply with either or both statutory instruments and doing so caused the other contracting party to suffer recoverable financial loss; and in negligence – if the dutyholder owed a party a duty of care at common law, which extended to an obligation to protect that party from financial losses incurred as a result of the dutyholder's breaches. It will be substantially more difficult for a party to establish a claim in negligence against a dutyholder without any contractual relationship.

Consequently, it is common for construction contracts – including the JCT and NEC suites of standard form contracts – to make compliance with CDM and applicable building regulations a contractual (as well as statutory) obligation, so that there is a separate means by which civil action can be taken to recover losses in the absence of any available statutory cause of action.

Key takeaway for dutyholders

If a dutyholder owes statutory obligations under CDM and the BRAE Regulations, it should be alive to the fact it could now find itself in a position where it is simultaneously liable for damages in a civil cause of action (particularly if it is contractually required to comply with those obligations) and criminally prosecuted by the HSE under both sets of legislation.

All dutyholders will benefit from taking proactive steps to ensure their exposure to risk is better understood and mitigated on each construction project they embark upon. This may include revisiting insurances to ensure that they properly indemnify against any such risk, and ensuring that future construction contracts accurately record intended obligations under both statutory instruments. **Tim Hillier is a partner and Olivia Jenkins is a senior associate at Trowers & Hamlins.**

'I like the Columbo part – just one more question...'

As a principal consultant for WSP Kevin Bainbridge enjoys a broad range of work including delivery of CDM services for water and acting as a CDM adviser for clients. He tells **Denise Chevin** about his career



evin Bainbridge is a principal consultant for WSP, the Canadian-owned multidisciplinary practice which is one of the world's largest built environment consultancies. As part of his role Kevin is CDM technical lead for water – asset design, which gives him responsibility for the delivery of CDM services for that part of the water sector. He was chair of the APS Northern Regional Committee for four years.

What does your job at WSP entail on a day-to-day basis?

I'm either involved in projects where WSP is the principal designer or I'm involved with principal designer assist services to companies which are appointed principal designer but don't have the in-house capability. I also act as a CDM adviser for clients, to assist with their duties on projects.

How did you get into this line of work?

I grew up in Shiney Row, Houghtonle-Spring. I studied architectural technology at Northumbria University in Newcastle and did a student placement with Sunderland City Council (SCC) building control from 2002-04. I then got architectural Kevin Bainbridge: "Whenever I talk to people about jobs, I always recommend the industry" technology roles in a few private practices, which included contract administration responsibilities.

At the time of the recession I found myself in a building surveying role back at SCC in the building maintenance section, mainly for education buildings, doing more design and contract administration of projects.

The council wanted all its building surveyors to obtain a NEBOSH construction certificate. And that was how I first ended up getting the health and safety qualification.

Then there was talk of designers being given more responsibilities within a forthcoming revision of the CDM regs. I wanted more knowledge and experience of how CDM worked and managed to get an assistant CDM coordinator role with Faithful+Gould.

Throughout my career, I continued to pursue my studies. I started with an HND in architectural technology in 2000 then got a degree in it at Northumbria University in 2005 and in 2009 took a masters in project management at the same university.

That was all part-time studying while I continued working, spanning my time at South Tyneside Council and Dunwoodie Architects.

I achieved my NEBOSH National Certificate in Fire Safety and Risk Management in 2022 and I am still studying at Northumbria – I hope to complete my NEBOSH National Diploma in Occupational Health and Safety later this year.

What appeals to you most about the job?

First of all, I like the investigation part. The 'Columbo' part – "Just one more question!" I like assembling pre-construction information, doing a bit of digging around the project, getting the information together, tying up loose ends, making sure that everybody is aware of it.

And then looking through the design with designers and looking at how we can eliminate risk or reduce it through the design and the construction phase.

I like knowing we're focusing as a team on making the process safe for people to use and operate and that we all want everybody going home safe at the end of the day.

Is your role likely to change with the introduction of the Building Safety Act?

The Act's secondary legislation – particularly amending the building regulations – will significantly affect some projects I'm currently working on, such as Aldi Stores (Northern region)

CV Kevin Bainbridge

2022 to present:
Principal consultant (CDM), WSP
2017-22:
Principal consultant (CDM), Wood
Environment and Infrastructure (acquired by WSP 2022)
2017:
Principal consultant (CDM), Amec Foster Wheeler (acquired by Wood Environment and Infrastructure in 2017) • 2015-17: Health and safety consultant, Faithful+Gould

• 2014-15: Assistant CDM co-ordinator, Faithful+Gould 2012-13:
 Architectural technologist, Building Design Solutions (NE)
 2010-12:

Building surveyor, Sunderland City Council

• 2007-09: Architectural technologist, Dunwoodie Architects 2005-07: Architectural technician, South Tyneside Council,
2004-05: Architectural technician, Nicholson Nairn Architects

• 2002-04: Building control officer (student placement), Sunderland City Council

66 I like knowing we're focusing as a team on making the process safe for people to use and operate Kevin Bainbridge, WSP

and Department for Education projects. It will affect those more than the water projects I'm currently involved in.

I'm taking a particular interest in the changes to the building regulations, given I started out in building control – and knowing that the introduction of the new dutyholder terms are a mirror of those defined under CDM. This will inevitably lead to confusion for some. The biggest misconception is that these changes and new duties only relate to higher-risk buildings, rather than applying to all construction projects.

I'm really interested to see how the industry responds to these changes – clients, consultants, local authorities, designers and contractors.

Talking of CDM regs, is there anything you'd suggest that might improve them?

I've always been in favour of clarity of explanation and language – which could be clearer around certain aspects of CDM.

It's still frustrating that, even after eight years, the CDM regs can still be misinterpreted and misapplied by dutyholders. Or by dutyholders who obtain the services of a third party to help them deliver their role and think it's not their responsibility any more.

The fact is you can't delegate your legal responsibilities to somebody else – they have got to realise that that duty still lies with themselves.

What about safety's relationship with architects – there's sometimes a bit of tension there?

Yes. I know what you are getting at. I know some architects feel principal designers should be architects – though in reality not many architects seem to want to take on the role.

When it was first launched in 2015, I think the HSE had a five-year plan, in which architects would initially get assistance from third parties like former CDM coordinators. Then as the years went on it should have developed to the point where architects could take on the role themselves.

But, for whatever reason, that hasn't happened. Companies are still reluctant to take it on. And I don't



Above: Impression of the new Aldi store planned for Driffield, East Yorkshire know how that habit can be changed. I think, possibly, the building regulation changes are trying to reinforce the idea of having architects become principal designer under CDM by also making it the responsibility of the principal designer to ensure compliance with the building regulations.

It's quite hard to attract people into the health and safety profession. What do you think could be done?

I think APS needs to be at university fresher events, just talking to people: "What course are you doing? Do you realise that you could be a designer? You could influence safety in the projects you're working on! Let's get you signed up – it's free for full-time students."

Whenever I talk to people about jobs, I always recommend the industry. And even if the job they come into is not directly a health and safety role – say, for example, if they're designers – I recommend they study for a NEBOSH construction certificate, because I think it makes you a better designer.

Companies and organisations need to talk more to universities, establishing relationships, particularly in design risk management – making students aware that whatever role they take on could have design implications. If you're catching people at an early stage in their development and talking to them about safety issues, I think they will see the value in that as a career path.

Which projects have given you the most satisfaction?

I get a lot of pleasure from the work I've been doing on the Aldi (Northern region) projects ever since I joined Amec Foster Wheeler (AFW) in early 2017 and continued when AFW was bought by Wood later in 2017 and Wood was bought by WSP in 2022. I am particularly proud of the way we managed to maintain our services during Covid and lockdowns.

What do you do when you're not working?

I spend a lot of time with my family. We try to get out in the fresh air – walks at the weekend as much as possible with my wife and nine-yearold daughter. You can usually find us either at National Trust or Durham Wildlife Trust sites or down the beach.

I'm a massive movie nerd, especially Bond movies and Marvel – I'm enjoying taking my daughter through the Marvel Cinematic Universe at the moment. ●



An early start can mean safer sealing solutions

Lack of attention to firestopping can have devasting consequences. In this article, **Craig Wells,** sales director at Quelfire, discusses how it can be improved through early engagement and standardised processes

S ince the tragedy of the Grenfell Tower, many positive changes have been happening in the industry, including more emphasis on the way firestopping is delivered – and with greater emphasis on service penetration sealing and early engagement.

A service penetration seal is a passive fire protection system intended to maintain the fire resistance of a compartment wall or floor where services – such as cables, pipes or ventilation ducts – go through it.

The traditional approach to service penetration sealing was to construct a building, create the apertures and run all the services through before initiating contact with the firestopping contractor.



Craig Wells Quelfire

Above: Early engagement with firestopping solutions can help improve safety in high-rise buildings However, the industry is now entering into design and build contracts which require early engagement, attention to detail and collaboration. For these concepts to be successful, an element of cultural change is required.

Firestopping of Service Penetrations: Best practice in design and installation is a guide jointly published by Association for Specialist Fire Protection (ASFP), BSRIA, Building Engineering Services Association (BESA), Finishes and Interiors Sector (FIS) and Gypsum Products Development Association (GPDA). In it there are nine golden rules. Seven of these relate to the building's design. Golden rule one relates to issuing early engagement with firestopping manufacturers and specialist installers.

What is early engagement?

Procurement has traditionally been carried out in the order of the procurement value of each package. This means service penetration sealing was not considered until several months into a project. But, as high-rise building fires have demonstrated, this is far too late – with sealing around services penetration found wanting.

Early engagement aims to involve all key stakeholders to ensure service penetration sealing considerations are addressed and integrated into the project's design phase, rather than being an afterthought.

When it comes to service penetration seals, many trades are directly involved. For a typical formed opening, otherwise known as a letterbox application, there will be drylining and mechanical and electrical contractors as well as other specialist installers: sprinkler; ventilation; and electrical contractors among others. The final responsibility lies with the firestopping contractor to seal the service penetrations.

All these parties need to be engaged because products must be installed as per the tested scope of application. Aspects such as positioning of services, types of services and insulations and sizing of letterboxes affect the efficiency of the product or system. Golden rule four states: "Follow the design process for penetration seals."

Firestopping solutions are typically selected by the main contractor, which has the responsibility to ensure the chosen solutions are compliant and installed accordingly. Many external trades need to be involved, making it a complex process, so implementing a standardised design process for each project is highly recommended.

What is involved in Quelfire's recommended process?

1. Identifying the requirements The starting point for all parties is understanding the project's wants and needs. The fire strategy requirements, such as required fire ratings and, to some extent, the location of fire-rated walls and floors, are likely to be nonnegotiable. Other factors – such as the choice of services, any required insulation or even the type of wall or floor construction – should be project desirables at this stage.

Follow the golden rules

• 1: Ensure early engagement with firestopping manufacturers and installers.

2: Review fire strategy documents and plans with M&E specifications.
3: Identify service types and establish the space required.
4: Follow the design process for penetration seals.
5: Select products that are third-party certified by a UKASaccredited organisation.
6: Ideally select products from one manufacturer throughout the project.
7: Request copies of third-party

certification from manufacturers.
8: Ensure installers are third-party certified by FIRAS, LPCB, IFC etc.
9: Implement an inspection plan with photographic evidence.
Golden rules in full: https://quelfire.co.uk/knowledge-advice/what-is-the-best-practice-guide

Many external trades need to be involved, making it a complex process, so a standardised design process is highly recommended

However, the success of early engagement depends on all parties' flexibility. For instance, if there are no available tested solutions for the type of insulation or service desired, compromise is crucial to identify alternative tested solutions. These grey areas must be rectified at an early stage.

Once the project's specifications have been identified – including the types of pipes, cables, dampers, insulation and walls and floors – the next step is to decide how services should penetrate the wall or floor.

2. Engaging with the relevant parties

When the requirements have been identified, the designer should engage with the appropriate firestopping manufacturer to identify the available tested solutions. Once there is a portfolio of details, the designer can gather all information into one design and communicate it to the supply chain.

This part of the process is paramount in incorporating the tested scope of application and ensuring that all the relevant, competent trades are happy with the design and can practically and efficiently build it.

In the event that any untested applications come to light, it becomes necessary to start the process from the beginning, identifying any changes that need to be made.

3. Preparing to build

At this point, there will be a finalised design. This will clearly outline each service's precise service penetration sealing solutions, including spacing requirements. Once the details have been approved and everyone agrees, construction can commence. This enables installers on site to adhere to the provided design guaranteeing that installations meet compliance requirements. ●

This article is based on a PSJ webinar, Firestopping Best Practice: Engage early, with Craig Wells, sales director at Quelfire, and Graeme Whitty, national product director at Willmott Dixon. https://us02web.zoom.us/ webinar/register/ WN_V_7VVIcNQyKiI7K2QBFHSQ

What are the benefits of implementing early engagement and standardised processes?

Details are tested Initiating early engagement increases flexibility when designing services. This flexibility makes it easier to choose a solution based on what has already been tested.

When no tested solution exists, but the application frequently occurs on site, manufacturers can conduct a fire test if they are aware of the emerging trends.

It is in manufacturers' interest to test common occurrences, but testing and certification are time-consuming. Hence, they must be notified as soon as possible.

2 It saves lives The ultimate reason firestopping needs to be compliant is to save lives. In the case of a fire outbreak, there should be a high level of confidence that service penetration seals will work as they are supposed to.

From a tender perspective, once all parties agree on and understand the design, the risk is mitigated, providing peace of mind.

3 It helps avoid extra costs and delays To ensure buildings are safe and comply with relevant regulations, firestopping needs to be designed according to the manufacturers' tested details.

Where firestopping is not considered when decisions are made about the location of compartmentation walls and central routes of M&E services, there is no guarantee that the manufacturer will have a tested solution. If these discrepancies come to light too late in the project, stakeholders can face extra costs and delays due to redesigning service penetrations.

(4) It ensures compliant and achievable installations Considering service penetration sealing at the early stages will also facilitate work at the installation stage.

It allows more time for parties to utilise the support offered by the manufacturer and prepare installation work by training onsite labour and arranging procurement of the correct firestopping products as in the design.

Improved reputation Firestopping is a complex matter, needing coordination between several trades.

A clear and structured plan will safeguard a company's reputation and give it a competitive advantage, through eliminating concerns about non-compliance amid increased scrutiny following the Grenfell tragedy and subsequent changes to legislation.

Graeme Whitty, national product director at Willmott Dixon, in a recent webinar, emphasises that the contractor's business decision to prioritise what it builds, how it builds it and the products it uses is crucial.

This choice enables the business to provide customers with confidence in meeting their needs, complying with regulations, and ensuring performance throughout the building's life cycle.

CPD: Five ways to improve fire doorset safety

In this CPD, **Jeld-Wen** explains why testing, accessories, third-party accreditation, traceability and whole-life considerations play a critical role in selecting the right fire doorsets

ire doorsets are essential to a building's fire safety strategy. But procuring them correctly means keeping pace with evolving regulations and changing industry attitudes. Central to these shifts is the emphasis on long-term safety throughout the lifespan of a building, with legislation identifying key roles and responsibilities in the operation and maintenance phases. Meanwhile, cost remains a constant aspect of product specification and procurement.

Here we examine the five key areas for improving long-term fire safety.

1. Testing to current standards Understanding the testing landscape There are many different situations in which fire doorsets can be used. Each application requires different performance characteristics depending on the specific context of the individual building and its intended use. Relevant building regulations should therefore be the first port of call for checking the performance requirement. But how should that performance declaration (an assurance of how the product will perform under defined conditions) be established?

For the building regulations in England, Appendix C of volumes 1 and 2 of Approved Document B deals exclusively with fire doorsets. It gives two routes by which fire doorset performance can be arrived, plus a third that applies to lifts.

The first one is the national classification route and the second is the European classification route. As Approved Document B takes pains to point out, the two classifications do not necessarily equate and so performance determined under one route cannot be taken as a certain level of performance under the other route.



National classification route (BS)

This method involves testing to BS 476 part 22. It gauges a fire doorset's fire integrity. Fire insulation performance, though less frequently mentioned, often emerges in commercial settings or by insurers' demands. Following testing, fire doorsets are labelled with an FD (Fire Door) rating indicating the achieved fire resistance duration, such as FD30 (30 minutes) or FD60 (60 minutes).

European classification route (EN)

There are a series of important tests to be considered here. All fire doorsets should be classified in accordance with BS EN 13501-2, tested to the relevant European method from the following: BS EN 1634-1 and BS EN 1634-2 concern fire resistance while BS EN 1634-3 concerns smoke control.

In this system, the term 'E' represents integrity indicating the duration of a product's resilience during a fire test. Classifications are E30 (30 minutes), E60 (60 minutes) and so forth, with further letters added for other performance characteristics. For example, an E30 door will have been tested only for fire resistance for up to 30 minutes. These classifications are crucial in ensuring fire and smoke protection standards are met.

Consultation on national classification removal

In 2022, the UK government considered reforms to Approved Document B of the building regulations suggesting a complete shift from the national to the European classification system, which already held precedence. While this change may seem insignificant for products like fire doorsets that often undergo European testing, it presents potential challenges.

Many UK fire doorset manufacturers are prepping for this shift to EN (European Standards) testing, which might strain test laboratories and certification entities. The EN test, more demanding than its British counterpart, could need product adjustments to meet EN 1634 standards, potentially raising costs. CE stands for Conformité Européenne, the French for European conformity, while UKCA means UK Conformity Assessed

Reputable

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manufacturers

offer guidance

on fire doorset

CE marking and UKCA marking

Presently, only external fire doorsets can carry the CE mark, excluding internal fire doorsets from both the CE and UKCA marks. However, related components, like hinges, must be CE/ UKCA marked and rated for fire usage.

2. Correct components to form a fire doorset

A fire doorset is more than just the door leaf. Its performance depends on the door leaf being closed and the right hardware fitted. There are maximum allowable gaps between the door leaf, door frame and threshold. The gaps are needed for the doorset to operate in daily use but the correct distance also ensures components can function correctly when activated by heat.

The fire doorset relies on the correct hardware being fitted in line with allowable limits as tested or specified in certificates. Hardware, in general, acts to ensure the door closes correctly and reliably and won't contribute to the spread of fire. Different door constructions will have limitations on the hardware that can be fitted.

The anatomy of a fire doorset A fire doorset's effectiveness depends on its complete assembly, including the door leaf, frame and appropriate hardware. Specific allowable gaps ensure that



66 Following testing, fire doorsets are labelled with an FD (Fire Door) rating, indicating the achieved fire resistance duration, such as FD30 (30 minutes) or FD60 (60 minutes)

components such as intumescent function properly during a fire. Key hardware components include:

- hinges
 seals
- handles
 - dles glazing
- latches/locks
 letterplates

drop seals
 overhead closers

Using a manufacturer-made and tested fire doorset streamlines the selection process, ensuring optimal compatibility and performance.

Fire doorset hardware and cost

While cost can tempt some when selecting hardware, it shouldn't be the only determinant. Door leaves, with their varied materials, sizes and weights, require specific hardware. A mismatch can compromise an entire building's fire safety strategy.

Moreover, smoke seals play a vital role in preventing lethal smoke transfer during fires. Proper installation and selection are vital for optimal protection.

Third-party accreditation

Third-party accreditation ensures that fire doorsets are:

- fit for purpose;
- compliant; and
- have been produced through a controlled and consistent process.

Third-party accreditation serves to comfort both specifiers and end users – whether tenants or owners. Beyond initial testing, it ensures ►

Terminology

Fire doorset

A door or shutter which, together with its frame and furniture as installed in a building, is intended (when closed) to resist the spread of fire and/or gaseous products of combustion and meets specified performance criteria to those ends.

Compartment (fire)

A building or part of a building, comprising one or more rooms, spaces or storeys, that is constructed to prevent the spread of fire to or from another part of the same building or an adjoining building. that components and construction methods remain aligned with the original standards.

In addition, independent assessment confirms that fire doorsets are produced consistently, are compliant and fit their intended purpose. Accreditation schemes should be overseen by UKASregistered organisations ensuring they meet rigorous standards. As part of this, fire doorsets undergo testing at a UKAS-approved facility following either the national or European classification routes.

What does third-party accreditation evaluate?

Third-party accreditation evaluates:

- factory processes and procedures;
- production consistency; andongoing auditing.

Beyond testing the product, thirdparty schemes verify that the fire doorset manufacturer's processes and procedures are consistently upheld. This ensures manufacturers can't simply produce one compliant door for testing while distributing inferior products – every fire doorset from the facility must match the declared specifications.

Mandatory audits are integral to the process. They occur at timed intervals or after a number of units have been sold (depending on the certification scheme) ensuring no more than five years between checks.

Accreditation schemes spotlight

The British Woodworking Federation's (BWF's) Certifire scheme stands as a premier third-party accreditation for fire doorsets. Under this scheme any performance falling short of its declared rating requires investigation and rectification. Failing to address a performance that is even a minute less can jeopardise certification.

If a fire doorset's resistance falls below 85% of its stated period its certification is instantly put on hold. Furthermore, any design alteration triggers the need for retesting ensuring

As construction adapts to the golden thread, manufacturers are likely to introduce traceability initiatives, where products bear a unique code allowing the original product specification to be checked



Fire doorsets require correct specification, installation, inspection and maintenance the Certifire certification remains up to date. This encompasses both the components and the fire door's construction methods.

Dual-purpose certification

Greater value can be had from working with a manufacturer that offers dual-purpose certification. These credentials not only attest to fire resistance but also other industry standards, such as PAS24 enhanced security. This reassures consumers that both fire and security aspects have undergone stringent evaluation.

4. Product traceability

Currently, the requirement for a 'golden thread' of building safety information applies only to higher-risk buildings – that is, residential buildings exceeding 18m in height or those that have at least seven storeys and at least two residential units.

Care homes and hospitals must meet the same requirements during design and construction but are excluded under the new regime during occupation, as they are regulated as workplaces through the Regulatory Reform (Fire Safety) Order 2005. Over time, experts expect the range of buildings under this requirement will expand. The golden thread:

- applies to higher-risk buildings;
- is expected to be expanded
- in scope over time; and

• records the original design intent and any changes made after.

The golden thread isn't just about building safety – it's about how information is stored in and used by digital tools and systems. It should record the original design intent and any changes. It ensures information availability at the right time and to the right people – including the newly created dutyholder roles and accountable persons.

Responsibility for the golden thread transitions between the design and construction phase and the operation and management phase. Through these roles the industry should witness a culture shift. Residents of higher-risk buildings should feel safer and a 'single source of truth' for building safety-related information should emerge.

How can manufacturers support the golden thread?

As construction adapts to the golden thread manufacturers are likely to introduce traceability initiatives, where products bear a unique code allowing the original product specification to be checked. Fire doorsets are no exception. Engaging with manufacturers to learn about plans to implement 'tag and track' systems is crucial. Such features will assist installers and building managers later when making repair and maintenance decisions.

5. Whole-life considerations

Part of procurement involves assessing whether a product can be properly installed on site and determining its maintenance frequency to ensure consistent performance over its lifespan.

A manufacturer's commitment to testing, accreditation and providing current information only matters if the fire doorset is installed correctly. Currently, no qualification exists for fire doorset installers – nor a requirement for one. This lack of standardisation means inconsistent training, potentially leading to errors even by competent installers.

66

Though fire

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Door leaves

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Reputable manufacturers offer installation guidance and are open to discussions should installers need further interpretation of standards.

All fire door fittings should adhere to BS 8214:2016. The key takeaway is that such manufacturers will not endorse any installation that doesn't strictly follow their guidelines. Any deviation from these instructions potentially jeopardises the fire safety strategy.

Common maintenance issues include damaged seals, excessive gaps, faulty hinges, damaged doors and propped-open fire doors.

The importance of understanding how even minor changes to a fire doorset can affect its fire-resistance capability cannot be understated. These include instances where doors have had modifications such as new paint coats or trimming to accommodate new flooring.

Though fire doorsets should be inspected at least every six months, there is no legal requirement to action any identified remedial requirements. Issues like damaged seals or large gaps between the door leaf and frame can be avoided by following the manufacturer's guidelines. Damage due to vandalism or doors propped open for extended periods is not something manufacturers or contractors can control.

If manufacturers and contractors collaborate to provide better information to building managers and accountable persons, restoring fire doorset specifications to their original performance becomes feasible. Simple actions, such as not propping door leaves open, make a significant difference.

Conclusion

The new building and fire legislation is enhancing fire safety standards in the industry. While roles such as 'competent person', 'dutyholder' and 'accountable person' are now clearer, success hinges on improved industry collaboration. Fire doorsets require the right framework of specification, installation, inspection and maintenance to function optimally.

There is still room for improvement in the standardisation of fire doorsets across the UK. Currently, there is no legal obligation for them to be third-party certified. But opting for fire doorsets with independent accreditation assures hardware specifications and consistent performance. Manufacturers offering product tagging further enhance project transparency.

While the industry awaits a UKASaccredited certification scheme for fire doorset installers, buyers can safeguard their interests by sourcing fire door components from BWFapproved Fire Door Centres or firms listed in the *BWF-Certifire Fire Door and Doorset Scheme Directory*. Additionally, the BWF provides invaluable information and materials to facilitate installation, inspection and maintenance. ●

Useful references www.gov.uk: *Fire safety: Approved Document B* www.hse.gov.uk: New roles and responsibilities – Building safety www.hse.gov.uk: Storing your building's information – the golden thread



85%

Under the BWF Certifire scheme, if a fire doorset's resistance falls below 85% of its stated period, its certification is instantly put on hold

CPD Questions

1) Building regulation Approved Document B requires testing to which standard?

a) BS EN 14351 (part two)

- b) BS EN 1634 (part one)
- c) BS 8214:2016
- d) BS EN 1350

2) Which of these statements is true?
a) A fire doorset's effectiveness depends entirely on its hardware
b) Hardware alone ensures the door prevents the spread of fire
c) A fire doorset's performance
depends on the door leaf
being closed and the right
hardware fitted
d) There are a minimum number of allowable gaps between the door leaf, door frame and threshold

3) Third-party accreditation evaluates:
a) Factory processes and procedures
b) Production consistency c) Ongoing auditing
d) All of the above

4) The requirement for a golden thread of the generation and management of building safety information applies only to residential buildings exceeding...
a) 17m in height

- b) 18m in height
- c) 19m in height
- d) 20m in height

5) All fire door fittings should adhere

- to which standard?
- a) BS 8214:2016
- b) BS EN 1350
- c) BS EN 1634 (part one) d) BS 476 (part 22)

To test yourself on the questions and collect CPD points, go to: projectsafetyjournal.com

Remediation yet to start on over half of unsafe buildings

Over 2,000 high-rise buildings still awaiting cladding remediation



overnment figures published in January 2024 reveal that 58% of buildings identified with unsafe cladding have yet to start remediation works.

In its monthly release of data, the Department for Levelling Up, Housing and Communities (DLUHC) revealed that, as of December 2023, a total of 3,839 buildings had been identified with unsafe cladding. Of those, 1,608 had started or finished remediation works with 2,231 yet to start work.

The DLUHC said: "Overall, 1,608 buildings (42%) have either started or completed remediation works. Of these, 797 buildings (21%) have completed remediation works.

The figures include remediation progress on high-rise (18m+) buildings

of buildings identified with unsafe cladding are yet to start remediation works

in height as well as those identified with dangerous cladding of mid-rise (11-18m) height.

The figures also state the number of buildings that have started or completed works has doubled since December 2022.

The Building Safety Remediation data release includes data on buildings in various DLUHC funding streams: the Building Safety Fund, Cladding Safety Scheme; developer remediation contract and reported by registered providers of social housing; as well as high-rise buildings with ACM cladding systems.

Previous versions of the data release have only included data on high-rise buildings with ACM cladding systems unlikely to meet

448

301

853

Dec 22

Cladding being removed from Skyline Apartments, a residential tower in Leeds

building regulations, with data on buildings in the Building Safety Fund published separately.

Throughout 2023, DLUHC started monitoring the remediation progress of buildings in the Cladding Safety Scheme, developer remediation contract and reported by registered providers of social housing.

This change in scope has since the end of December 2022 largely driven the reporting of an additional 2,237 buildings with unsafe cladding.

Of the 1,345 buildings identified as having life-critical fire safety risks that will be remediated by developers: • 262 (19%) are reported to have completed remediation;

 473 (35%) are reported to have started or completed remediation; and 506 (38%) are reported to have not started remediation but have plans in place.

It is currently estimated it will cost around £2.7bn to complete the remediation works.

There are an estimated 91,000 dwellings in buildings with defects that developers are committed to remediate. Of these, there are an estimated 32,000 dwellings in buildings that are reported as having either started or completed remediation works.

Based on the start and completion dates that have been reported by developers, 433 buildings are expected to start works and 164 buildings are expected to complete their remediation between 1 November 2023 and 31 October 2024. ●



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There are an estimated 91,000 dwellings in buildings with defects that developers are committed to remediate. Of these, there are an estimated 32,000 in buildings that are reported as having either started or completed remediation works

Overall remediation by height

51% of the 18m+ buildings DLUHC is monitoring have started or completed remediation on unsafe cladding, compared to 27% of 11-18m buildings



Progress of developer remediation schemes by height

39% of the 18m+ buildings have started or completed remediation, compared to 29% of the 11-18m buildings



Progress of social housing remediation schemes by height

34% of the 18m+ buildings reported to have unsafe cladding by the registered providers of social housing have started or completed remediation, compared to 28% of the 11-18m buildings



In the dock

Recent prosecutions for health and safety breaches

Hire giant Nationwide fined £900,000 after worker crushed to death

Nationwide Platforms has been fined £900,000 after a man was crushed to death while attempting to move a scissor lift at the company's workshop in Liskeard, Cornwall, on 4 November 2021.

Lee Benham, 45, was working for the company as an LGV driver when the incident occurred. He was operating the scissor lift from the ground to clear an access path.

Nationwide Platforms, of Central Park, Lutterworth, Leicestershire, pleaded guilty to breaching Section 2(1) of the Health and Safety at Work etc Act 1974.

It was fined £900,000 and ordered to pay £12,405 in costs at Plymouth Magistrates' Court on 21 December 2023.

Roofing company fined £881,000 after two workers fall from height

Mitie Tilley Roofing has been fined a total of £881,000 after two workers were seriously injured in separate incidents.

Billy Hewitt, a 60-year-old worker at Mitie Tilley Roofing, fractured his pelvis, left wrist and eye socket after falling through a factory roof in Newcastle on 11 November 2019.

He landed on concrete floor 7m below the skylight he was replacing and spent three weeks in hospital.

Meanwhile, a 24-year-old labourer employed by RM Scaffolding broke his femur after falling through the roof of a building while working on a project run by Mitie Tilley Roofing on 3 June 2019.

Following the incident on 11 November 2019, Mitie Tilley Roofing, of London Bridge Street, London, was found guilty of breaching Section 2(1) of the Health and Safety at Work etc Act 1974 and breaching Regulation 4(1) of the Work at Height Regulations 2005. It was fined £575,000 and ordered to pay £84,940.08 in costs.

The incident happened on 3 June 2019. On 6 December 2023 the firm pled guilty at Newcastle Crown Court to breaching Section 3(1) of the Health and Safety at Work etc Act 1974 and was fined £306,000 and ordered to pay £27,410.63 in costs.

Paul Robinson, of Laburnam Way, Penarth, Vale of Glamorgan, pleaded guilty to breaching Regulation 4(1) of the Work at Height Regulations 2005.

He was sentenced to 120 hours of unpaid community service and ordered to pay £20,428.73 in costs.

Council fined £2m after worker killed during roadworks

Newport City Council has been fined £2m after a man was killed while carrying out road repair works on 18 July 2019.

Stephen Bell, 57, was barrowing tarmac from the back of the local authority's tipper lorry when he was struck by a farm vehicle passing the roadworks.

Newport City Council pleaded guilty to breaching Section 2(1) and 3(1) of the Health and Safety at Work etc Act 1974. It has been fined £2m and ordered to pay costs of £9,780.

Company director sentenced to unpaid work after employee fall

A company and its director have been sentenced after an employee fell from height and suffered serious injuries.

Andrew Smith, 53, was working for Profascias at Park Lane Primary School in Tilehurst, Reading, when he fell approximately 3m off a ladder on 28 July 2021.

Profascias, of Tadley, Hampshire, pleaded guilty to breaching Section 4(1) of the Work at Height Regulations 2005. It was fined £6,000 and ordered to pay £2,000 in costs at Slough Magistrates' Court on 18 December 2023.

John Nolan, of Tadley, Hampshire, pleaded guilty to breaching Section 4(1) of the Work at Height Regulations 2005 by virtue of Section 37(1) of the Health and Safety at Work etc Act 1974.

He was handed a 12-month community order where he must undertake 180 hours of unpaid work and ordered to pay £1,000 in costs.

Regional focus: APS is back on the road

Members from all corners of the four nations have told us how they are keen to get back to sharing experiences in person. So this year APS is planning a series of face-to-face local events around the country, where everyone can get involved, says **Lesley McLeod**

ere we are, and it's almost spring already! And the Association for Project Safety (APS) is getting ready to leap into a new season with a return to face-toface events around our regions.

When we asked you what you valued – and what you most missed – it was clear many of you were keen to get back to sharing your experiences with colleagues around the country. There were many reasons: hearing about what is going on in your area; learning about experiences new to you; even just sharing the comradeship only networking can provide.

We're just sorry it's taken so long. It was always going to take some time to bounce back after Covid and, what with the change to our regional set-up last year, it's been a while since members have been able to get together. We also knew – with members as far apart as Thurso and Truro, Lerwick and London, Ballymena and Bradford – it was going to be a challenge to reach as many of you as possible.

And then there is increasing pressure at work. Those of you with projects on the books seem to be snowed under. Others are chasing around to keep contracts rolling in. With that in mind we realised the days when people could afford to take a whole day out to come along to a big conference were likely to be a thing of the past.

So, APS is planning a series of shorter, more local events to make it easier for everyone to get involved.



Lesley McLeod Association for Project Safety

Each event will focus on the changing face of the built environment in the UK and tackle your top topics with key speakers who are industry experts in their field

With support from your National Members Representative Group (NMRG) representatives around the four nations, the association is gearing up to take APS back on the road.

The APS president will be visiting every region starting off with a half-day event in England South on Thursday 25 April 2024.

The London event is the first of six paid events and booking will be open shortly at aps.org.uk/events. Then it'll be on to Birmingham and Cardiff before the team takes a well-earned summer break.

The current plan is to go to Edinburgh, Manchester and Belfast in the autumn – more about that later. Each event will focus on the changing face of the built environment in the UK and tackle your top topics with key speakers who are industry experts in their field.

We will also be working with our friends at the Lighthouse Club charity to support its Make it Visible campaign bringing into the light ways we can all work together to improve the welfare of people working in the industry.

Don't worry if you're not able to make it to any of the regional dates. There is always plenty going on at APS and we are already well into our webinars and CPD sessions. This includes our highly acclaimed series on the Building Safety Act – now moving on to how the law will affect your daily working lives.

These online events are all included in the price you pay to be a member – so, to get the best bang for your buck, just go to the events section on the website and click on our live events. Take a look at the back catalogue too. You can pick up on any of the growing number of webinars in our library.

In the meantime, log on and cast your eye over the activities specific to your area. And remember, if you have any ideas for local events, or just want a chat, you can always get in touch with your local representatives. You can find your area champions on the website: www.aps.org.uk.



BUILT FOR THIS MOMENT

On the ground and in the sky, the building goes on. The air is buzzing. The team's all here – still digging, lifting; still sawing and shouting. But this time, it's different. Now the teamwork – and the fist bumps – mean a little bit more. Now you're working together like never before. On beams and girders, in hoists and trailers, you're building our future – right now. And we're here to help you do it.

We're Bluebeam. Built for today. Building for tomorrow.

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Synergie Training specialises in the **APS Accredited Principal Designer** course which we provide as both onsite closed company courses and as public courses throughout the UK. We have successfully accredited over 2,000 individual Principal Designers with a 95% pass rate. We now also provide the **APS CDM Awareness, APS Accredited CDM Client** and **APS Accredited CDM Principal Contractor** courses along with Customsied CDM Training.

VIRTUAL TRAINING

We are currently still running the majority of our CDM courses virtually via live trainers. These courses have been a great success having trained over 1000 delegates on our virtual APS CDM PD course.

Upcoming Dates include:

4 Mar - 5 Mar	APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Glasgow	£595
11 Mar	*VIRTUAL* – CDM 2015 Overview	Online - Remote	£225
12 Mar	*VIRTUAL* - APS Accredited - CDM 2015 for Principal Contractors	Online - Remote	£250
13 Mar - 14 Mar	*VIRTUAL* – APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Online - Remote	£595
20 Mar - 21 Mar	APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Birmingham	£595
8 Apr	*VIRTUAL* – APS Accredited – CDM Awareness	Online - Remote	£250
9 Apr	*VIRTUAL* - APS Accredited - CDM 2015 for Principal Contractors	Online - Remote	£250
10 Apr - 11 Apr	APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	London	£595
10 Apr - 11 Apr	*VIRTUAL* – APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Online - Remote	£595
22 Apr - 23 Apr	*VIRTUAL* – APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Online - Remote	£595
3 May	*VIRTUAL* – APS Accredited – CDM Client	Online - Remote	£295
8 May - 9 May	*VIRTUAL* – APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Online - Remote	£595
13 May	*VIRTUAL* – CDM 2015 Overview	Online - Remote	£225
14 May	*VIRTUAL* - APS Accredited - CDM 2015 for Principal Contractors	Online - Remote	£250
15 May - 16 May	APS Accredited – The role of the Principal Designer under CDM 2015 (2 Day)	Nottingham	£595

Please quote APS-MAR for a 10% discount on any of the above public courses.

Please visit: www.synergietraining.co.uk/course-schedule to view additional public course dates.

Synergie Training is an approved APS, CITB & IEMA Accredited Training Centre and holds ISO: 9001, ISO: 14001 and ISO: 45001 quality standard accreditations. Website:www.synergietraining.co.ukE-Mail:enquiries@synergietraining.coTel:01463 227580









