

CHANGE IS COMING

After the horrors of Grenfell, the construction industry's failings have never been more harshly scrutinised. Ahead of a full-scale review of the building regulations, **Amanda Birch** hears what the experts have to say on the matter

The fire at Grenfell Tower in London this summer, in which at least 80 people are known to have died, not only raised serious questions about the safety of tall buildings, but has also ushered in a wide-ranging review of the building regulations.

According to Mark Farmer, chief executive of consultancy Cast, the devastating events of the night of 14 June have highlighted problems endemic within the construction industry.

"What we've got now is the potential for one of the most far-reaching analyses of the construction industry in a long, long time, all borne out by the realisation that we have some very deep-seated systemic problems," he says.

"I don't think there will be one particular part of the whole process singled out. It's everything – from how clients brief their team,

all the way through to how buildings are delivered, handed over and, in post-occupancy, how they are managed!"

An independent review led by Dame Judith Hackitt, chair of manufacturers organisation the EEF, is examining the building regulations and fire safety, particularly relating to high-rise residential buildings.

The government announced the review after large-scale fire tests showed that at least 82 residential high-rises use a combination of cladding and insulation (the same combination used on Grenfell Tower) that do not meet fire safety standards.

We do not yet know what the review's recommendations are – an interim report will be presented at the end of this year, with a final report next spring – but we do know what it will tackle. The government's *Independent Review*



of Building Regulations and Fire Safety: terms of reference summarises the task ahead:

- Map the current regulatory system (regulations, guidance and processes) as it applies to new and existing buildings through planning, design, construction, maintenance, refurbishment and change management
- Consider the competencies, duties and balance of responsibilities of key individuals in the system in ensuring that fire safety standards are adhered to
- Assess the theoretical coherence of the current regulatory system and how it operates
- Compare this with other international regulatory systems for buildings, and regulatory systems in other sectors that have similar safety risks
- Make recommendations that ensure the regulatory system is fit for purpose, with a focus on multi-occupancy high-rise residential buildings.

Farmer, along with building control expert Geoff Wilkinson, director of Wilkinson



Mark Farmer



Geoff Wilkinson



Construction Consultants, anticipates that the review will result in a tightening of the building regulations. It will reduce the number of options to comply, increasing accountability – and the need for justifications about variations – to that guidance, says Wilkinson.

In the process of reviewing the system, he wants to see both sides – the regulation setters and the regulation followers – working together. “I would like to see the people from the Department for Communities and Local Government being more engaged, visiting building sites and walking around with inspectors so that they see the issues on the ground on a day-to-day basis,” he says.

“There’s no huge appetite for the building regulations to become totally prescriptive. We already experienced this in the 1980s, when innovation was held back and new products were prevented from coming onto the market.

“The main concern, though, is limiting the substitution of materials during the course of a project – so a contractor swapping one material

Large-scale fire tests showed that at least 82 residential high-rises use a combination of cladding and insulation that do not meet fire safety standards

for another would require more detailed approval than is currently the case. In many instances, Building Control aren’t even notified that a material has been changed.”

PRODUCT SWITCHING

This has long been a cause for concern. And product substitution is believed to have occurred in the cladding system specified at Grenfell, where two different types of insulation were used in different parts of the building and a fire-rated aluminium panel was substituted for a non-fire-rated aluminium panel.

Swapping products within composite panels is also a problem in the partitioning sector, says Wilkinson. A particular make of plasterboard will be specified with a particular brand of insulation and make of stud, for example. But if the plasterboard is replaced by another make, this can invalidate the test certificate.

Paul Tollervey, head of technical UK and Ireland at Knauf, explains: “All drywall systems

(plasterboards, steel stud sections, fixings and accessories) are tested to demonstrate a range of performance parameters – fire, acoustics and robustness. If one product within this system is substituted for another, the performance of this new system will change – which is why each manufacturer’s proprietary systems are always recommended.”

Product substitution is found in retail fit-out too, as contractors value engineer a project in response to constrained budgets and tight time-scales.

“The risk of product substitution has definitely grown, and some of that is down to pressures on site,” agrees Farmer. “There’s also a culture that’s emerged and got worse over the past 10 to 15 years – lowest cost procurement, with everyone trying to get the cheapest possible solution. It’s clear that in some cases, this is having an impact on functional performance.

“But when that functional performance is the difference between something being flammable or not, that takes it to a whole different level!”

Misleading claims by product manufacturers have come to light since the Grenfell fire, says Wilkinson. For instance, a label may indicate that a product is fire-rated, but it is not made clear that it is only fire-rated when used in combination with another product or in a particular location.

So how can those in the interiors sector be confident they are using fully tested products, assembled correctly and fully compliant?

One route is the full-scale testing of an installation, known as BRE 135. Tollervey says this is standard practice for his company. “We would only recommend fully compliant Knauf systems that have been tested by UKAS’s approved party,” he says.

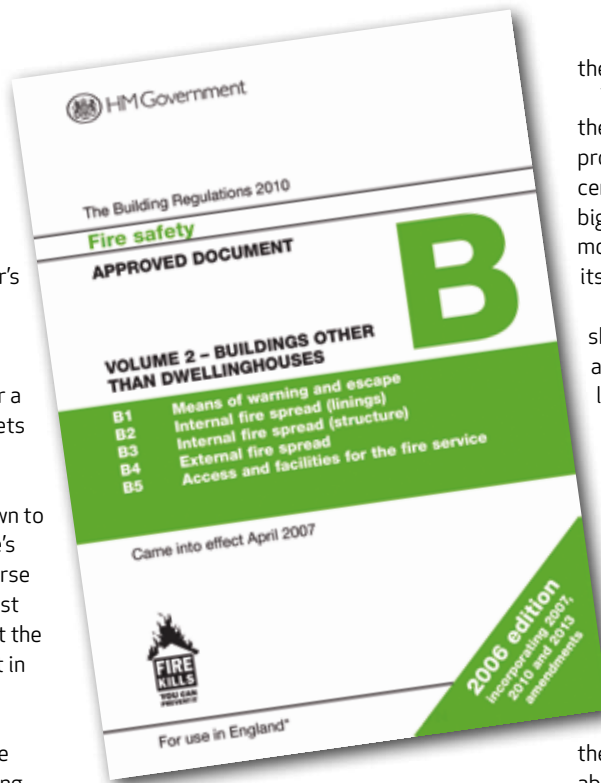
“Whether the system is for exterior walls that may have been used on buildings such as Grenfell Tower, or a system that could be used in the commercial fit-out sector, we offer a full system performance warranty based on that and it gives the customer confidence that what they are installing has been tested and approved.”

Although these large-scale tests are expensive and only apply to a one-off installation, Tollervey insists that testing products within a system is the way forward for providing confidence in the market.

TACKLING THE SKILLS GAP

It’s widely agreed that more people with the right skills and qualifications are required to carry out preventative measures and on-site supervision.

“There is a mind set in construction to design down to the building regulations and cut costs as much as possible – whatever the



“I’d like to see the people from the DCLG more engaged, visiting sites and walking around with inspectors so they see the issues on the ground on a day-to-day basis”

minimum is to pass,” says Wilkinson. “But in the car industry, no one ever designs down to the minimum level of the MOT.

“This has to be changed and the only way is by toughening up the enforcement side – and that includes traceability.”

Whoever is responsible for overseeing this needs to be able to double-check calculations and scrutinise what’s been installed, and that takes experience and strong technical knowledge. But high-calibre professionals with these kinds of qualities are in short supply in the UK construction industry.

“Forget who’s qualified and competent already,” comments Farmer. “We have a really big issue around attracting new people with the right skill sets, the right competencies and

the right aptitude into our industry.”

The experts have different ideas on how the construction industry can tackle this problem. Farmer believes the government has a central role to play, but he believes it’s a much bigger issue than building control – it’s about modernising the whole industry and improving its image to attract more young people.

Meanwhile, in response to skilled labour shortages, some manufacturers are looking at ways of making the installation process less complex. Given the dwindling supply of plasterers, for example, Knauf has come up with a plastering product that can be sprayed on more easily.

“We’ve looked at how we can use modern methods of construction in the application of the products we sell, to supplement a reduction in a skilled labour force,” says Tollervey.

COMPLIANCE TOOL

FIS chief executive David Frise says the association is consulting with members about developing a tool to demonstrate compliance – using a mobile phone or tablet to photograph a product delivery note, for example, or to scan a site worker’s CSCS card.

“You’ve got the product, the process and the people tied up in one place, and that becomes a record for the contractor of what was done before a wall or partition was closed off,” explains Frise. “It also gives the client peace of mind that the installation has been carried out correctly.”

Farmer and Wilkinson agree that digital technology, including BIM, is crucial in helping to alleviate traceability issues. In fact, Wilkinson foresees technology increasingly take over human tasks – 3D laser scans and drones scanning buildings as they’re built, checking against the design whether features such as fire doors, plug sockets, fire stoppers and cavity barriers are in the correct place.

“This technology is expensive,” he says. “But if a project has been designed in BIM and the regulations are produced in BIM (enabling the computer model to self-check), then the contractor can prove compliance by saying they carried out a daily 3D laser scan.

“This would prove that what was built was an exact replica of the design; a building inspector would not be needed; and that would result in significant cost savings.”

The government should support this by insisting that all government-funded projects be put through such a process, he adds.

This would in turn encourage businesses to invest in the technology, gradually making it standard practice.

Wilkinson acknowledges this would require a complete culture change within the construction industry, but adds: “We’re seeing this already with home technology and driverless cars. So I believe it’s possible.”