

BUILT TO LAST?

Illustration: Richard Osley



Does the UK construction industry have a significant problem with quality? **Robert Langkjær-Bain** looks at the efforts to change culture and practices to ensure safer, more sustainable buildings



You don't have to

look hard to find stories of the construction industry's failings.

Headlines frequently tell the tales of disgruntled homeowners who say they are dealing with structural defects, substandard workmanship, plumbing issues and disputes with builders.

Surveys suggest these aren't isolated cases. In one study by Shelter, 51 per cent of buyers of new homes in England reported major faults with construction, fittings or utilities. In fact, Bovis Homes, one of Britain's biggest housebuilders, had to apologise to customers and set aside £7 million to compensate them for problems with houses it had built.

But the consequences of building failure get much worse. The horrific fire at Grenfell Tower in London in 2017 claimed 72 lives and shone a light on numerous problems with the 43-year-old building's safety – many of which residents had previously pointed out repeatedly. Subsequent investigations have identified structural concerns in other UK tower blocks.

In the year prior to the Grenfell disaster, the collapse of a wall at an Edinburgh primary school sent nine tonnes of masonry crashing to the ground. Luckily no one was hurt, but the incident revealed problems with numerous buildings built around the same time and led to 17 other schools being closed for repairs.

Collaboration for change

At this time, the RIBA Client Liaison Group, a working group bringing together the institutes representing architects, building professionals and surveyors, was already looking into concerns about fragmentation and cultural gaps between the various players working on construction projects.

Nigel Ostime of UK-based architecture practice Hawkins\Brown was closely involved. He says that Grenfell "gave us a rather sharper focus on what we were doing. It made us realise that making sure we had good collaboration in the design team to get good outcomes wasn't just a nicety. It was rather more important than that."

As well as cultural issues, there are processes and commercial issues that can discourage or prevent

collaboration. For example, clients who need to come up with a building design to obtain planning permission are often reluctant to invest too much time or money, in case permission is not granted. Also, when homes are built for immediate sale, the builder has little stake in whether they last six months or six decades.

"No one wants to produce a bad building," says Ostime. "But somehow quality gets chipped away. Often in a construction project, the project will pass from one owner to another; one project team to another, and when that happens you get a drop-off in quality. Partly, that's because there's a misunderstanding about what they're picking up. They can see the drawings and specifications, but what's underlying it is not necessarily apparent. The focus is on cost and time but the third part – quality – is hard to monitor."

Among other things, Ostime blames the rise of 'design and build' contracts for many quality issues. In these cases, a client pays a contractor a lump sum to design and construct a building, instead of hiring a consultant separately to come up with a design. The contractor is often responsible for their own quality monitoring.

"Design and build probably started about 30 years ago as a result of clients wanting to pass risk on to contractors, and I think that was a detrimental step for quality," says Ostime. "It's not good enough for contractors to be self-certifying the completeness of the building. Clients think they're passing risk on to contractors, but the reality is that it's at the expense of quality. I think that this has probably got worse during my career."

"IF EVER THERE WERE A TIME [WHEN] WE'RE GOING TO IMPROVE THESE THINGS, IT'S NOW. THESE ISSUES ARE IN THE PUBLIC EYE AND THE GOVERNMENT IS TALKING ABOUT IT"

Images: hawkinsbrown.com/fStock

100 years of quality in construction

A century ago, the First World War had just ended. Nothing would ever be the same – including the buildings we live and work in.

Not only could new buildings draw on wartime technological advancements, but they now needed to serve a new social and economic order, with new sensibilities. The styles that once suited the privileged and wealthy were out of favour – the new architecture would be about function, not finery.

In the UK, the Housing Act of 1919 gave local authorities the funds to build hundreds of thousands of homes and is the origin of modern state-owned housing.

In the decades that followed, the UK's building regulations developed, with national regulations introduced in the 1960s. Occasionally, changes were spurred on by events. In 1968 a brand-new tower block in east London partially collapsed following a gas explosion, resulting in four deaths. This led to big changes in the regulations, designed to make sure buildings could deal with explosions and other accidents.

But problems remain. The Grenfell Tower fire in 2017 highlighted the weaknesses of the regulations, and the author of a report on the tragedy has described the system as being stuck in a "time warp".

Today, building priorities aren't the same as they were 100 years ago and the way we define quality in buildings continues to evolve. The need for large amounts of new housing means a risk that quantity is prioritised over quality. At the same time, sustainability concerns have put the focus on reducing energy use, waste and pollution, using measures such as ground source heat pumps, natural ventilation and solar energy generation.



Above: Nigel Ostime says the Grenfell Tower fire made the industry realise the importance of collaboration between the various parties involved in a project

Consequences of short-termism

Ostime was subsequently involved with producing a report on preventing building failure for the Housing Forum, *Stopping Building Failures*, which represents 150 organisations from the housing supply chain (housingforum.org.uk). The report highlighted "an urgent need to change culture and processes".

The Housing Forum's report said quality problems have resulted from short-termism in the industry, combined with fragmentation in the supply chain, lack of clear lines of responsibility and a race to the bottom in pricing. Corners are cut, quality suffers, and any cost savings may turn out to be false economies anyway, if work has to be redone.

The report recommended better collaboration between the various parties involved in projects. In particular, it calls for more effective 'value management', based on a clearly agreed vision of quality requirements at the outset of a project, and a greater focus on long-term value. ▶

Ostime says he would like to see "project teams doing a value management exercise at the beginning, rather than value engineering at the technical design stage, which is really just cost-cutting".

Although the Housing Forum's report says design and build contracts can deliver high-quality housing given the right management and conditions, it sounds warnings about problems that can arise from such contracts and urges clients to consider other models of procurement.

The report also encouraged wider adoption of new technologies such as building information modelling (BIM), which makes it possible to digitally model every aspect of a building, in order to see what works and what doesn't, the impact of changes, and where quality can be improved. More on-site inspection and wider employment of independent clerks of works would also help, the report said.

In the long-term, the report called for tighter control of competencies in the construction industry, as is seen in countries such as Germany, which puts a much greater focus on vocational education and qualifications for trades such as building.

Then there's the question of quality skills. Better skills would mean "better quality outcomes at the end, and less reliance on having to check, because the checking will be done at an earlier stage," says Ostime. "The barrier is that clients think they're getting best value out of getting lowest price."

The Get it Right initiative and the Quality Tracker tool

At the heart of this issue is collaboration, and in an effort to lead by example, the architectural institute Royal Institute of British Architects (RIBA) has got together with the Royal Institution of Chartered Surveyors (RICS), which represent surveyors, and the Chartered Institute of Building (CIOB), which represents building professionals, to investigate solutions, forming a joint initiative called Building in Quality.

Ostime says: "One of the key things we've said is that it's critical to have a focus on quality at the front end and get it off to a good start. If you do that, you've got a fighting chance of producing a good quality building. If you don't, you're always on the back foot."

With little prospect of new legislation that might force a change of culture, Ostime says: "We knew we had to use more carrot than stick". They also knew that it had to be simple. The result is the Building in Quality initiative's Quality Tracker tool (see right). It's a simple Excel tool that project teams can use to monitor quality throughout a project. The client, design team and contractor each nominate a quality custodian, who use the tool to work through a set of questions on quality risks. This creates a visual dashboard of the level of quality risk, and where it lies. "If that means there's a conversation going

"NO ONE WANTS TO PRODUCE A BAD BUILDING, BUT SOMEHOW QUALITY OFTEN GETS CHIPPED AWAY"

on about quality outcomes, then that's already a win," says Ostime. "Because at the moment it just doesn't happen".

The tracker could become a way for builders and building owners to differentiate themselves in the market. It would be "a great outcome", for example, if it became publicly recognised outside the world of construction.

Elsewhere, other work is underway to improve quality. Last year a group of construction companies and clients came together to launch the Get it Right initiative (<https://getitright.uk.com>), which hopes to eliminate avoidable errors, that are estimated to directly account for around five per cent of project value, as well as significant knock-on costs. Research conducted for the Get it Right initiative found that the top reasons for errors reported were inadequate planning, late design changes, poor communication and bad quality culture.

The hope is that such efforts will help prompt a renewed culture of quality, creating better buildings, and preventing deadly failures. And there are other factors that make it particularly urgent. Productivity in the UK's construction industry has flatlined over the past 20 years, according to official data, while sectors such as manufacturing have achieved significant improvements, producing roughly the same output from a smaller workforce. Clearly, reducing failures could have a huge positive impact on productivity.

Then there's the UK's housing crisis. The country needs around 300,000 new homes a year, and it isn't building enough. But Ostime warns: "In the race to build quantity, we've got to remember the quality. We can't do that without changing procurement, and we can't do that without clients having a different outlook on how they get value out of buildings. They've got to see it as a whole-life value proposition."

It's a big cultural shift, and the stakes are high. But Ostime is optimistic. "These issues are in the public eye and the government is talking about it," he says. "If ever there was a time [when] we're going to improve these things, it's now." ■

The BIQ Quality Tracker

The BIQ (Building in Quality) Quality Tracker is a simple Excel-based tool that gives project teams a way to assess and monitor risks to quality over the entire course of a building project.

Project teams with representatives from the client, designer and contractor must meet and answer a series of questions with either 'yes', 'no', 'partly', or 'not applicable'.

The questions included in the tracker tool align to quality risk reduction indicators, grouped into risk categories.

The result is a visual breakdown of where quality risks lie and how serious they are. The tracker (currently being piloted at architecture.com/working-with-an-architect/building-in-quality-pilot) is designed so that results are easy to understand and can be shared with other stakeholders.

Illustration: Corey Jackson

"QUALITY IN OUR INDUSTRY IS BEING SACRIFICED TO ACHIEVE TARGETS"



Putting quality in the construction agenda

Paul Nash, Past President, Chartered Institute of Building (CIOB), talks to Alicia Dimas about the Building in Quality initiative and the CIOB's new Code of Quality Practice

Alicia Dimas (AD): What does quality mean to you?

Paul Nash (PN): It goes beyond just compliance to standards or performance. Good quality enhances an industry's reputation and improves people's lives and livelihoods. Unfortunately, the opposite is also true.

AD: And people do notice when quality is missing, especially in construction.

PN: Yes, absolutely. At one end of the scale you've got the new home owner who has probably just made the biggest single purchase in their life, having to get a builder back a year after to correct defects. And at the other end of the spectrum, you've got the tragic consequences of the Grenfell Tower fire. What we have found is that the problem is

systemic: quality in our industry is being sacrificed to achieve targets, whether that be time or cost.

AD: Can you briefly tell our readers about the Building in Quality initiative?

PN: The Building in Quality Initiative is a response to one of the underlying problems in construction: how do you ensure that the standards of quality, that are set at the start, are maintained throughout the life cycle of a project, and given as much importance as time and cost?

The Building in Quality initiative has created a 'chain of custody', ensuring that when you set the standards at the start with the client, those standards are passed on when you hand over from one stage to the next. It is an idea that ties in very closely with the concept of the 'golden thread' of information, which is one of the key recommendations

of the report into building regulations and fire safety following the Grenfell Tower fire.

AD: Why was it important that this initiative was the product of a collaboration between the CIOB, RIBA and RICS?

PN: I think the collaboration on the Building in Quality Initiative between the three major professional bodies was symbolic, in the sense that it showed a commitment to collaboration on a key issue. I think that most importantly you needed those three disciplines to come together: architecture, surveying and construction management, in order to ensure that the entire process was represented.

AD: One of the tools you have developed for this initiative is the Quality Tracker. What are the main advantages of this tool?

PN: One of the key issues identified by the report on building regulations and fire safety, following the Grenfell Tower fire, was that decisions were made on the basis of cost, without necessarily fully understanding the implications of those decisions in terms of quality. The report refers to it as a 'race to the bottom'. This tool helps to put quality on the agenda alongside cost and time when you move from one stage of the Plan of Work to the next.

AD: Can you briefly tell us about the Code of Quality Practice?

PN: Following some high-profile cases involving construction defects, we started looking for evidence of the underlying issues, and this led us to focus on behaviours and education, setting the right standards and informing people about how to deliver good quality management.

So, the Code of Quality Practice is essentially about setting standards and providing practitioners with the tools and processes needed to deliver quality on construction projects.

The intention is to launch the Code during this summer, following a pilot, and this will be the basis of a Certification Scheme, which will be piloted in autumn 2019. ■