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Restoring Confidence in Product Safety

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How will the proposed reforms under the Building Safety Bill affect the certification of construction materials and how can the supply chain be better engaged, so that products are appropriately developed and deployed?

Architects must be sure that the products they specify satisfy the performance criteria, required for their projects. Traditionally, architects have relied on manufacturers' technical literature and information published by independent certifiers such as the British Board of Agrément (BBA) and Local Authority Building Control (LABC) for assurance that the materials they select are appropriate. However, the Grenfell Inquiry exposed alarming evidence of spurious marketing in relation to the fire-safety performance of cladding and insulation products. It also uncovered widespread 'gaming of the system' with manufacturers making repeated attempts to get their products to pass prescribed tests.

In addition, the Hackitt Review highlighted that over the last 30 years the construction industry has become increasingly fragmented, with a widening split between those who manufacture products and those who specify them.

Many architects will have experienced the results of this fragmentation on Design and Build contracts. Meetings are held with specialist suppliers to discuss project specific requirements during the initial design stages, and production information is then developed based on the technical information provided. Products are then specified on an 'equal or approved' basis to maintain an open and competitive tender, allowing contractors to propose alternatives from their preferred supply chain once appointed, so as to protect their limited profit margins. Works packages previously completed for tender then have to be redesigned and re-coordinated working alongside alternative suppliers who have no prior knowledge of the scheme.

Not only does this process leave architects doing work twice, for no additional fee, it also tends to make suppliers reluctant to go the extra mile when assisting architects during the initial design stages because of the likelihood that their products will be substituted by those of their competitors. Also, the commercial pressures of value engineering can lead to last minute changes where products are 'swapped out' immediately prior to contract award without the implications being fully considered. This increases the potential for errors in design coordination, or worse, lapses in building safety.

Over time, these processes have eroded relationships between architects and the supply chain, and have reduced the quality of design outputs at the pre-construction phase. These problems are not unique to the UK construction industry. According to HKA's 2020 CRUX Insight Report, the top causes of construction claims and disputes globally were scope change, incorrect or incomplete design, and poor management of sub-contractors, suppliers and their interfaces. So, how can manufacturers be encouraged to develop and market their products appropriately, and how can supply chains be better engaged by architects to restore confidence, increase efficiency and maintain design continuity?

Product Safety

The Building Safety Bill, introduced to Parliament earlier this summer, proposes broader and tougher provisions for the Construction Products Regulations whereby manufacturers will be required to clearly demonstrate their products' performance criteria before putting them on the market. This will include stricter surveillance of safety-critical products, which will be required to pass mandatory testing regimes. This will be supplemented by tougher enforcement measures including prosecution for manufacturers who flout the rules. Industry bodies have also undertaken extensive consultation across supply chains following the Hackitt Review's demands for radical changes in the way construction products are tested and marketed.

The Construction Products Association (CPA) will launch a new Code for Construction Product Information (CCPI) later this year which aims to set a new benchmark for how product information is presented by manufacturers. The CPA recognises the urgent need to restore trust and confidence within the industry and the new Code will feature 11 key clauses underpinned by five core objectives to ensure product information is clear, accurate, up-to-date, accessible and unambiguous.

These developments should be welcomed by architects as they will provide greater clarity for specifiers of construction products, particularly in relation to fire-safety performance. However, with the Building Safety Bill still to complete its parliamentary journey, it remains to be seen when these much-heralded changes will begin to take effect.

There are more immediate challenges for manufacturers to face over the coming months, however, regarding the certification of construction products following the UK's departure from the European Union. CE markings were due to cease being recognised from 1 January 2022, but due to industry concerns the government has recently extended this deadline for a further 12 months. After this, all products sold in the UK will require UKCA marking (and UKNI marking in Northern Ireland), which will require testing and certification by a UK accredited body. The British Standards Institute recently raised concerns that significant numbers of manufacturers had yet to apply for UKCA marking. This is likely to cause significant disruption to supply chains given the high proportion of products being imported from the EU.

At the RIBAJ Fire Safety in Practice webinar earlier this summer, Peter Caplehorn, Chief Executive of the CPA, noted there is currently insufficient testing capacity within the UK to meet these demands and urgent discussions are underway with the government to seek agreement on a more practical regime for the fire testing of construction products for 2022 and beyond. This will further compound the challenges presented by worldwide material shortages generally and the increased demand for cladding materials in the UK to accommodate the widespread remediation programmes being undertaken post Grenfell.

> "Value engineering can lead to products being 'swapped out' without the implications being fully considered"

Improved Engagement

Much has been reported on the Building Safety Bill's implementation of 'the Golden Thread', where duty holders will be required to maintain up-to-date digital records of design information requiring formal approvals at key 'Gateways' over the course of a project. The introduction of these defined hold points within the programme, aligned with a more rigorous

approach to design management and change control, should help reduce the proliferation of product substitutions and value engineering changes that currently blight the design process. Historically, parties have been less inclined to change materials where samples have already been signed-off with planning authorities to avoid disrupting the approvals process (a prospect less attractive commercially) and it is likely the new regime will initiate similar restraints.

In order to fully realise the Golden Thread's objectives, there will need to be increased collaboration between designers and supply chains. An example of this is architects and manufacturers working alongside the NBS (National Building Specification) to develop NBS Source, which is intended to provide structured, high-quality product data, to include all relevant performance criteria and certifications.

The Golden Thread is being seen as a catalyst for wider industry adoption of BIM with opportunities to link NBS Source data (and specifications aligned under NBS Chorus) to the BIM model to create a fully integrated 'digital twin' for the building's lifecycle. HKA's 2020 CRUX Insight Report has observed that whilst the global Covid-19 pandemic has had many negative impacts on the construction industry, the consequent increase in remote working and use of cloud-based technologies, has accelerated the digitalisation of construction workflows, and increased productivity. The NBS 10th Annual BIM Report 2020 confirmed that, whilst BIM adoption has grown substantially over the last decade, the lack of client demand and perceived unsuitability to certain project types continue to act as barriers.

Embedding digital technologies through the adoption of the UK BIM Framework is one of 14 key policies summarised under the government's Construction Playbook, which promotes delivery excellence across public sector procurement by harnessing the potential of best industry practice. The Playbook focusses on establishing key project outcomes from the outset and seeks to foster behavioural change from delivery teams by employing a more balanced approach to risk allocation.

Other policies include encouraging the use of early supply chain involvement, effective collaborative contracting and 'modern methods of construction' (MMC) to utilise offsite fabrication and minimise greenhouse gas emissions. By engaging teams much earlier in the design process under framework agreements, the Playbook promotes the use of early contractor involvement (ECI) with a preassembled team of consultants, sub-contractors and suppliers of construction products to develop the scheme design collaboratively while minimising wasteful design changes later in the programme.

It remains to be seen how architects will adapt to these proposed reforms and whether the drive for increased collaboration and standardisation will be seen by some as a restraint on creativity. But it is clear the profession must adapt to embrace this widespread cultural change if it is to rise to the challenge of constructing safer and more sustainable buildings whilst delivering real value for clients and communities.

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