

Case Study: Creating a plaza for residents to socialise in new scheme in Mill Hill, London



Climate Challenge: WMS on how a holistic approach is needed to maximise underfloor heating benefits



The Social Network: Patrick Mooney asks is quality at risk in the rush to deliver the housing numbers?

HOUSEBUILDER & DEVELOPER JUNE/JULY 2022

ESTATE OF INDEPENDENCE

Salford Housing Association Salix used its new-found independent status to deliver a major estate regeneration project with serious amounts of community buy-in

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ESTATE OF INDEPENDENCE Housing association Salix Homes speaks to Jack Wooler about how they achieved vital community buy-in for their first new build.



James Parker

ON THE COVER

HOUSEBUILDER & DEVELOPER



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FROM THE EDITOR

As this issue went to press, it became your legal duty to achieve carbon emissions in new build homes which are 31% lower than the 2010 Building Regulations. This is being done via a squeeze on Part L and Part F of the Regs, alongside the introduction of the new Part O covering overheating.

The implementation of this interim target – towards the full provisions of the Future Homes Standard coming into force in 2025 – has either been substantially smoothed or slightly fudged, however, depending on your viewpoint. The 'transitional arrangements' which have been agreed for housebuilders means that if you have submitted plans (building notice, initial notice or full plans) by 15 June, you can start work to the previous Part L/F between now and 15 June 2023.

Designs will not only need greater insulation and air-tightness, while avoiding overheating, but will also negate gas heating. As the UK's electricity grid becomes increasingly 'decarbonised,' come 2025 the Regs will be tightened again so that new homes will be completely 'future-proofed.' This means that they won't require any more retrofit work to make them 'zero carbon' to align with the UK's legally-binding net zero target in 2050. That's the plan anyway.

The transitional arrangements almost seem to have predicted housebuilders' current predicament, as costs go through the roof. Inflation is currently at a 40-year high, and construction materials are one of the most badly-hit areas; estimates earlier this year put the price rises facing housebuilders at around an extra £3.2bn.

The Department of Business reported that in February, the cost of steel rebar had increased year on year by 44%. Fabricated structural steel was up by 36%, particle board 45%, and plywood 29%. Early, open collaboration across the supply chain, and creative thinking, will only go so far in mitigating such rapid rises. Fuel is rising at a record rate too, which will add further costs getting supplies to sites.

Suppliers will help, but margins will only take so much before core finances start to get hit. Major housebuilders will likely take priority over SMEs – 16% of all SMEs are in the construction sector. The FMB says a third of SME housebuilders have already had to pass on price rises to their customers. For a time, contractors will attempt to absorb these rises. But eventually they will be asking their suppliers for more favourable terms, and hiking prices for buyers facing an energy crisis.

House prices recently showed a slight dip, as The Bank of England tries to curb inflation. Michael Gove's recently spreading doubt around the firmness of the 300,000 homes target might be welcome news.

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Gove casts doubt on 300,000 homes target



Housing Minister Michael Gove has raised a question mark over whether the Government is going to see through its 300,000 homes a year target, while announcing powers for local to support or veto planning decisions on home extensions.

Gove told the *Sunday Telegraph* that the 300,000 target "should not be used as a sole measure of success" saying it had raised problems in the past with "people being been driven just to create units of accommodation, rather than homes and communities."

His comments emerged in the same week as the The Levelling Up and Regeneration Bill, which included a proposal for 'street votes,' as well as community-led 'design codes' to help mitigate local resistance to housing developments.

A spokesman for Boris Johnson later attempted to squash any apparent contradiction in Gove' words with the Government's "commitment" to the homes delivery target, telling the BBC it was "central" to levelling up. However doubt still remains over how binding the manifesto pledge now is to build 300,000 homes a year in England by the mid-2020s.

Although suggesting that the 300,000 homes target was not the only measure of success, Gove added that the Government "would do everything they could to reach it," adding that the quality of homes was critical. Gove told the *Sunday Telegraph*: "Resistance comes down to the quality of what is built, and the fact that housebuilders can make significant profits which are not shared equally with the community." He added: "The planning system means that developers can override the clearly expressed view of local people."

Mr Gove agreed that more homes were required, but told BBC Radio 4's *Today* programme it would be "no kind of success to simply hit a target if the homes that are built are shoddy, in the wrong place, don't have the infrastructure required and are not contributing to beautiful communities."

The Government remains substantially behind on delivering the target, in 2019/20, its first year in office, 243,000 new homes were built, and this fell to 216,000 in 2020/21, partly because of the disruption caused by the pandemic.

Housing measures confirmed in 'Levelling-Up' Queen's Speech

As well as promises to tackle rising inflation, a number of Bills affecting the industry were announced in the Queen's Speech – including procurement reform and new planning powers.

Among the 38 Bills and draft Bills announced in the speech were the Renters Reform Bill and Social Housing Regulation Bill, the Procurement Bill to replace EU rules, the Energy Security Bill (which will aim to boost renewable energy and promote electric heat pumps), and the Levelling Up and Regeneration Bill, giving councils new planning powers, including forcing landlords in England to let out empty shops.

While many in the industry have praised these efforts – especially in continuing the path to decarbonisation and the rewed focus on planning, others claim the changes will do little to help those suffering under a cost of living crisis.

Richard Beresford, chief executive of the NFB, welcomed the news: "Construction will be delighted to hear that local procurement processes are being reformed to help SMEs, Levelling Up will fo-



cus on employment and regeneration, and regulatory reforms for business and on EU policy are coming. It is also good to see the Government recognise that without greater powers, East to West high-speed rail will not get off the ground."

"However," he added, "planning reform, which is key to Levelling Up, didn't offer anything on housing supply or to builders but instead concentrated on resident involvement and greater local powers. Similarly, despite the mention of an Energy Bill, social housing and Infrastructure Bank, planning, which enables these ambitions in practice, was not mentioned."

When it came to planning and housing, Brian Berry, CEO of the Federation of Master Builders, gave a qualified welcome: "It was good to see a renewed focus, through the Government's Levelling Up Bill, on planning reform. Small, local housebuilders have been producing fewer and fewer homes for decades, with those in the market facing significant barriers to their work. In the 1980s, 40% of new houses were delivered by SME housebuilders; this figure now sits at a mere 12%.

"Planning has long been an issue for smaller housebuilders, with 62% of FMB members saying recently reporting that it's making it harder for them to build homes. Greater investment in local authority planning teams would add capacity and enable faster turnaround times of applications, reducing delays and easing the strain on resources. Considering today's commitments, I hope to see significant improvements to reverse the decades-long decline of SME housebuilders. These local building firms play a vital role in their local areas, employing school leavers, building good quality homes in the local vernacular and reinvesting their success back into their communities."

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COSTA EXPRESS

ilke Homes starts onsite in Beeston MMC scheme with Network Rail

Modular housing company – ilke Homes – has craned in the first factory-built home on a site in Beeston which was formerly owned by Network Rail.

In 20 months, ilke Homes has secured the site, achieved full planning permission, and delivered the first homes. The speed at which the modular housing company has been able to achieve these milestones was one of the main reasons why it was chosen to deliver on the 2.2-acre site.

Tom Heathcote, executive director of development at ilke Homes, commented: "This development, once complete, will prove to be an exemplary case study of how offsite manufacturing can breathe new life into public land via the delivery of well-designed communities that are connected to transport hubs."

In partnership with emh group, a housing association, ilke Homes is delivering 42 affordable homes on the vacant brownfield site next to Beeston station.

As part of sweeping reforms to the planning system, the Government is encouraging the redevelopment of brownfield sites to bring new investment into areas and increase housing delivery.

Robin Dobson group property director

at Network Rail, added: "We are proud to have created a partnership with ilke Homes on the redevelopment of this brownfield site, to enable the delivery of affordable-led modular sustainable housing in this growing region, putting transport infrastructure at the very heart of the development. It's a project that demonstrates the pivotal role our railway can play in unlocking sites which deliver growth."

The announcement represents a further step in ilke Homes' move to becoming a "fully-integrated housing developer," meaning they acquire land, secure planning permission, manufacture the homes and develop the sites.

ilke Homes' full 'turnkey' offering was added to the business in 2020 and sits alongside its 'homes only' offering, where ilke Homes solely manufactures homes and delivers them to site for a developer.

All of the homes are being precisionengineered along production lines at their 250,000 ft² factory in Knaresborough, North Yorkshire. By manufacturing offsite, ilke Homes said it's able to provide affordable housing providers with many benefits, including speed, sustainability, standardisation and flexibility.



MPs right to call on Government to publish retrofit strategy, says FMB



The Environmental Audit Committee (EAC) is correct to highlight that the Government's missing retrofit strategy remains a barrier to green the nation's homes and upskill the workforce in order to deliver a truly sustainable built environment, says the FMB, in its response to the EAC's recent Building to Net Zero report.

Brian Berry, chief executive of the Federation of Master Builders, said: "I welcome the Environmental Audit Committee's (EAC) conclusion that a retrofit strategy and complementary upskilling programme will be vital if we are to reach net zero by 2050. Fortunately, the Construction Leadership Council has already provided a blueprint for this National Retrofit Strategy, that would save 84.9Mt carbon emissions by 2040; unlock 500,000 new jobs; and help level up communities right across the country. At a time when consumers' energy bills are spiralling upwards, these measures have never been so urgent."

Berry concluded: "I wholeheartedly join the EAC in urging the Government to bring forward a credible long-term retrofit strategy, that incorporates the necessary upskilling needed within the sector, before the Summer Recess. With 29 million leaky and energy inefficient homes across the UK, the clock is ticking if we are to reach net zero by 2050."

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Industry needs support to meet decarbonisation goals

Off-grid homes in the UK face a number of challenges in order to meet the Government's goal of decarbonising all housing to achieve net zero by 2050, according to a leading boiler manufacturer, saying support is required.

According to Mark Wilkins, technologies and training director at Vaillant UK, for homeowners who are connected to the gas grid, "electrification and hydrogen are viable options." However, for the 1.1 million homes in England off the gas grid and using fossil-fuel based heating systems, "there are a number of different challenges to address," he said.

Wilkins pinpointed "two clear strategies for decarbonising heating systems in off-grid buildings," namely stopping new fossil fuel heating installations from 2026, and adopting a "heat pump first" approach to replacing heating systems."

Wilkins said that to deliver these aims, the housebuilding industry "needed to ensure there is an adequate number of skilled heating engineers." These skills are "urgently needed in the new build sector," he said, "particularly if off-grid homes are obligated to accelerate decarbonisation of their heating systems more quickly."

He said that to future-proof new build houses, "developers and housing providers will need heating engineers who can install the most suitable low-carbon system for a property – not just specialising in one technology, such as heat pumps." He added that this would be a "step change for our industry, and must be fully supported," suggesting that the process of getting skills and training should be "straight-forward and cost-effective,



particularly for SMEs who will require financial support to make this transition."

Wilkins said that 78% of UK off-grid homes use oil as their main fuel source, "also the most carbon intensive." Of the rest, 13% of homes use liquid petroleum gas (LPG) and 9% use coal.

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THE CLIMATE CHALLENGE

A holistic approach to heating efficiency



EVERY NEWLY BUILT HOME IS NOW REQUIRED TO PROVE A 31% REDUCTION IN CO₂ COMPARED TO PREVIOUS STANDARDS AND DEMONSTRATE A MAXIMUM FLOW TEMPERATURE OF 55°C

Ashley Cooper of WMS explains why underfloor heating is in the spotlight following new requirements in the Building Regulations, and how the housebuilders can benefit from taking a holistic approach to system design.

P ollowing enforcement of the low water temperature update to the Building Regulations and Part L from June this year, the industry is now collectively adjusting to the single biggest change the housebuilding market has ever seen. Every newly built home is now required to prove a 31% reduction in CO_2 compared to previous standards and demonstrate a maximum flow temperature of 55°C. Alongside this, to further increase efficiency, new properties must also now incorporate a self-regulating control device which allows for zoning within the property.

While there is flexibility on how to meet the new targets and there are a variety of renewable energy sources available, the Government expects heat pumps will be the primary heating technology for new homes. However, in order for heat pumps to work at their most efficient (COP) level they need to run between 35-45°C. By design, hydronic (water based) underfloor heating can easily achieve this, whereas at flow temps as low at 35°C, it's very unlikely that radiators would even work!

Larger radiators would not only increase build costs, but they also create an eyesore and interior layout headache for housebuilders and homeowners alike – as such, they will quickly become a thing of the past for new builds.



When it comes to lifecycle comparisons, radiators typically need replacing after around 25 years – whereas we offer a 75-year warranty on our underfloor heating pipework, so is likely to outlive the life of the building itself. In addition, while radiators are typically made from steel or aluminium and can be recycled, the carbon produced during the recycling process is extremely high. So, when you look at the carbon effect of underfloor heating vs. radiators over the lifetime of a building, it's clear to see why underfloor heating ticks more boxes!

While heat pumps and underfloor heating are the perfect zero-carbon emission pairing, precision system design and installation is vital to ensure the system reaches the required efficiency – otherwise, the knock-on effect will be increased energy bills. The result of good heat pump design is an efficient system which is capable of covering all of a property's heat demand, regardless of outside temperature. Heat pumps will also last longer if there is less strain on the system, as such, it's key to view the heat pump heating system design from a holistic point of view, where all parties involved with the proposed installation work together in collaboration on the design.

The foundation of any correct heating and plumbing design is a



calculation of all the heat loss figures for a property. Availability of precise heat loss calculations not only leads to the correct specification of all equipment required, but crucially a seamless installation and operation of the finished system.

Some companies may rely on a W/ m² calculation to guess the amount of underfloor heating pipework required; however, we believe this does not provide accurate enough results when dealing with an ASHP systems. Guesswork can also lead to heat pumps being unnecessarily oversized. If the heat pump is oversized, not only will the initial upfront cost for the unit be higher, so will the running costs for the homeowner.

This is where the importance of a holistic approach really comes into play, and there are many benefits when all parties involved with the proposed installation collaborate on the final design. As such, with this period of change ahead of us, we believe it's never been more important for housebuilders to work with suppliers which are ready and able to support them to meet the new standards through collaboration and by putting best practice designs at the heart of their offering.

Ashley Cooper is managing director at WMS Underfloor Heating Ltd



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Delivering emissions reductions

Marc Nickels of Kingspan Technical Insulation discusses how one substantial source of embodied emissions – building services haulage and deliveries – can be reduced on residential developments.



The UK Green Building Council anticipates that by 2035, embodied carbon emissions may make up around half of total emissions from the built environment. Embodied carbon is the result of all the processes needed to construct, maintain and ultimately dismantle a building at the end of its life. These emissions are already considered within major sustainability standards and are expected to come under greater scrutiny through local planning measures (such as the London Plan) so it's important that developers consider how they can be addressed.

One key source of embodied emissions during the construction phase is from the road haulage needed to transport materials to site. New research from Rider Levett Bucknall has revealed that by using thinner, more thermally efficient pipe and ductwork insulation solutions over lower performing alternatives, it's possible to insulate far greater lengths of services from a single delivery. This can reduce the number of deliveries needed for a project and was shown to cut the emissions associated with their transport by as much as 66.67% for pipe insulation and 33.41% for duct insulation solutions.

EFFICIENT SERVICES

The key performance metric for insulation materials is their thermal conductivity (lambda). This is the measure of how well they prevent heat conduction at a given thickness. The lower the thermal conductivity of the material, the more effective it is at preventing this type of heat transfer, meaning a slimmer thickness can be used with no loss of performance.

In pipe and ductwork applications, insulation materials are typically required to limit heat losses from services to the rates provided in BS 5422:2009 as a minimum. In practice, the thermal conductivity of the materials can have a major impact on the thickness of insulation needed to achieve these values. For example, materials such as phenolic pipe insulation typically have a far lower thermal conductivity than that of alternatives such as mineral fibre. A comparison carried out on a typical low temperature hot water system (<95°C) showed that, in some cases, the lower performing mineral fibre pipe insulation needed to be twice as thick as the phenolic alternative to reduce heat losses to the same rate. These differences can become even greater where enhanced specifications of pipe insulation are required, as is often the case on heat networks.

Similarly, a comparison of heated ductwork lagged with mineral fibre with a pre-insulated phenolic ductwork system showed that to achieve a heat loss rate

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of 16.34 W/m^2 , a 22 mm thickness of the pre-insulated phenolic ductwork system was needed compared with a 40 mm thickness for the mineral fibre lagged ductwork.

By using thinner insulation, it should be possible to insulate greater lengths of pipe and ductwork with each delivery to site. This is especially important as many developers switch to heat networks, which require extensive pipework systems in addition to ventilation or air conditioning ductwork. Kingspan Technical Insulation commissioned RBL to carry out a study looking at how the efficiency of the pipe and ductwork insulation could impact the number of site deliveries and associated carbon emissions.

TOTAL COVERAGE PER LOAD

To understand this, RBL first looked at the total length of pipework or area of ductwork which could be insulated to BS 5422:2009 with a single delivery from a typical, 44 tonnes haulage vehicle.

The analysis of pipework products considered the pipe insulation, pipe insulation support inserts and all associated packaging. Two different solutions were assessed across a range of pipework systems and pipe diameters: mineral fibre pipe insulation, and phenolic pipe insulation.

The outputs showed that between 8.33% and 146.53% more linear metres

of pipework could be insulated with the phenolic pipe insulation specification, depending on the pipework system type and pipe diameters.

RBL then looked at two different ductwork solutions including coupling systems for warm air and dual ductwork: sheet metal ductwork lagged with mineral fibre insulation, and pre-insulated phenolic ductwork.

This showed that between 33% -40% additional square metres of the pre-insulated phenolic ductwork could be carried in a 44 tonne lorry.

CARBON EMISSIONS

Based on this analysis, RBL were then able to calculate the expected greenhouse gas (GHG) emissions associated with deliveries of the insulation solutions for a range of applications.

These calculations initially looked at the number of deliveries and associated GHG emissions when delivering pipe insulation and insulated pipe support inserts for 10,000 metre, 20,000 metre and 40,000 metre lengths of pipework. The results showed that total GHG emissions could be as much as 66.67% lower with the phenolic pipe insulation specification compared with the mineral fibre specification.

For the ductwork insulation solution comparison, RBL considered the number of deliveries needed to provide 1,000 m^2 , 2,000 m^2 and 4,000 m^2 areas of ductwork. Again, the results showed that the total GHG emissions with the pre-insulated phenolic ductwork could be up to 33.41% lower than the mineral fibre lagged sheet metal alternative.

They then carried out additional modelling based on the full building service specifications from several real-life case studies. This modelling assumed all materials were being sent from the same manufacturing site in Herefordshire and includes emissions from complete round journeys. The results supported those from the initial modelling, showing that emissions from pipework deliveries were reduced by half on the case study building, whilst those from ductwork could be cut by as much as 33.33%.

A FOCUS ON THE DETAILS

The extensive potential sources of embodied emissions can make it difficult for developers and housebuilders to know where to start when addressing this issue.

RBL's study shows that by breaking the issue down into smaller focus areas, such as working with the building services engineers to consider the efficiency of building service insulation and its impact on haulage, it's possible to achieve notable reductions in these emissions through relatively minor adjustments in specifications.

Marc Nickels is business development manager at Kingspan Technical Insulation

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Brian Berry

DID THE QUEEN'S SPEECH DELIVER?

Brian Berry, CEO of the Federation of Master Builders (FMB), discusses his views on the recent Queen's Speech, and how it compared with industry expectations.

Market Speech, but the Government delivered something quite different. We got the Levelling-Up and Regeneration Bill, which firmly puts the public in the driving seat.

It's clear that this step down from a fully-fledged planning bill was to realign the narrative of levelling up and appeal to Conservative voters in their traditional heartlands. But does it help small local builders who, as I've discussed many times before, are a vital piece in the levelling up puzzle?

LEVELLING-UP AND REGENERATION BILL

The Levelling Up and Regeneration Bill might turn out to be a disappointing step change in the direction of the Government. We had expected a fully-fledged planning bill which could have simplified the planning process for micro and SME builders who currently face delays, with 61% of our members citing planning as a barrier to delivering homes.

The move to digitise the planning process is welcome, which I hope will bring about clarity on development status for builders and residents alike. Moves to make who owns land more transparent will also help small developers. It could be that more local engagement, when harnessed correctly will help housebuilders. It could allow for fast tracked planning permission for certain projects identified by the residents of a street, through so-called 'street votes' which will boost the density of current housing stock and potentially deliver more homes. But we await detail on what these votes will truly mean.

Greatly increased community engagement, focussing on design, material and layout does, however, have the potential to slow down and disrupt the viability of new homes – developments are complex. SME housebuilders already sit at the heart of their communities,



delivering projects reflective of their local areas. Putting local communities in a commanding position when it comes to laying out local plans could be troublesome. We've all been to town hall type meetings and observed the tendency for the loudest voice to win out over that of the moderate ones.

FMB members already play an active role in engaging local residents, as they are often building in their own communities. Micro and SME builders deliver high-quality homes, reflective of their local areas. They use local tradespeople and train up local school leavers; they are central to their communities and any move to add delays to an already burdensome planning process puts a declining sector at further risk.

I would hope to see SMEs properly factored into new government plans, and I welcome previous constructive engagement I've been able to have with the Chief Planner. I completely understand, indeed I'm enthused,



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that new homes should be high quality, more beautiful and part of the fabric of the local area. But SMEs already deliver this day in day out and have done since time immemorial. Unfortunately, over the last 40 years the sector has been on a downward spiral and successive governments have done little to stop this. I hope the Levelling-Up and Regeneration Bill, if properly executed with plenty of engagement with SMEs, will be a turning point.

NEW BUILDING REGULATIONS ARE HERE

Significant changes to building regulations have come into force, in June. Their introduction has been a rocky road, with many FMB members, 52% of them, not prepared or unaware they were coming. This wasn't by any means their fault, my members are on site, toiling away, which means communications need to be consistent and clear. Unfortunately, this didn't happen, and it was left to the industry to work out the changes, in the absence of support from the Government. You can find a free guide to the regulation changes on the FMB website (www.fmb.org.uk).

The changes are designed to improve the energy efficiency of buildings to help the country move towards its targets for net zero by 2050. What this means is that the Government wants newly built properties to be more energy efficient. These changes are the advance party, ahead of the main event, the Future Homes Standard, which will be coming in a few years.

The hope is that introducing interim measures now will make the changes coming in or around 2025 less severe for builders and also go some way to cut carbon emissions in the meantime. While the FMB welcomes the interim changes, the new measures do nevertheless present another hurdle for SME housebuilders. Costs will inevitably go up and this will be passed on to the consumer, and as we know there isn't much money in our pockets at the moment, so how will the housing market fare?

WHAT NEXT FOR THE MARKET?

You would have to be a brave person to make predictions for what may come later this year. The Bank of England predict a recession and the recent Office for National Statistics (ONS) figures for March show GDP has declined, not increased, as predicted. From our own FMB State of Trade Survey for Q1 2022 we can see the market is ticking along, but there was still a lot of pent-up money post pandemic and the impact of the hardships of energy bill increases has yet to be fully felt.

After many years of uncertainty, you would hope for some stability ahead, but I'm afraid we may be in for a difficult second half of the year. Let's see if the Government can do something ambitious to keep the market going and ultimately keep momentum up on their flagship policy of levelling up.

PUTTING LOCAL COMMUNITIES IN A COMMANDING POSITION WHEN IT COMES TO LAYING OUT LOCAL PLANS COULD BE TROUBLESOME ESTIMATING



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Patrick Mooney

ACHIEVING QUANTITY AND QUALITY

Patrick Mooney, housing consultant and news editor of Housing, Management & Maintenance magazine, asks: has good design been squeezed out by our efforts to increase housing supply?

C Too many housing estates are designed for nowhere in particular. They can be soulless

and dispiriting." That rather damning verdict was written by a Government Minister responsible for planning in an official guide to better housing design.

It was in fact written just over 20 years ago by Lord Falconer (when he briefly held the reins as Housing Minister), but seeing it again a week or two back, I was struck by how similar it is to many of the comments I regularly hear made about more recently built housing developments across the country. So can we achieve quantity without compromising on quality?

Good design is often said to be a matter of personal taste but we all recognise that poor or bad design in housing will very quickly have a detrimental impact on residents and local communities and whether they succeed and thrive, or not. The Government's new Levelling Up policy recognises this issue and even goes further by saying bad housing damages our health, and can contribute towards years being taken off our life expectancy. Therefore good design and construction should logically be something we all aspire to when planning or building new housing schemes.

With so much new housing required to meet our current and future needs there is a lot of pressure on local authorities and developers to get properties built as fast as possible, but mistakes can be extremely costly and none of us wants to see relatively new housing demolished within just a few years of construction. Cutting corners to speed things up rarely produces sustainable and long lasting solutions to any problem, including a housing shortage.

BLAND ARCHITECTURE

Fast forward 20 years from Lord Falconer's withering assessment and one of the country's leading academics and teachers in planning

and urban design has made similar criticisms of England's new housing, describing its quality as "generally mediocre or poor."

In a report written for the Place Alliance, Professor Matthew Carmona of University College London has concluded that housebuilders are (still) churning out substandard housing schemes, creating poor living conditions for residents. He describes bland architecture, with estates dominated by access roads and parking spaces at the expense of green areas and playgrounds. Other failings include few public transport links and a lack of amenities such as shops, pubs and cafes.

Over the past couple of years Professor Carmona has conducted research on volume housebuilding and surveyed 2,500 households on their attitudes and experiences. This had a particular resonance during lockdowns caused by the Covid-19 pandemic, which forced many of us to stay inside our homes for extended periods. It showed that one in six of us said we were either 'uncomfortable' or 'very uncomfortable' in our homes during lockdown.



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People living in housing built in the last 10 years were the most likely to report feelings of discomfort with their home environment, as well as a weaker sense of community.

By contrast, those that lived in properties built before 1919 were more likely than those that lived in the most recently built homes to be comfortable and to feel a strong sense of community. People in the oldest developments (pre-1919) were also twice as likely as those in the newest to say that their neighbourhood met their everyday needs.

Indeed, the data showed a progressive deterioration of the neighbourhood experience of lockdown from old to new, with older neighbourhoods scoring better than more recent ones. But remember every single one of the modern schemes involved in the survey had gone through the planning system, so is it possible for us to change these outcomes or are we destined to keep repeating the same mistakes?

The National Planning Policy Framework was amended last July to allow councils to refuse "development that is not well designed". A study by University College London found that the Planning Inspectorate, which hears housebuilders' appeals, is now three times as likely to back councils who reject developments on design grounds. It also found the majority of blocked schemes were in the south east, suggesting that councils in other regions are not using their new powers.

The UCL report highlighted 12 housing schemes rejected by the Planning Inspectorate on design grounds under the new framework. In one scheme the inspectorate found proposals for a block of flats on the site of a demolished car park in Crawley, West Sussex would offer "unsatisfactory living conditions", which included limited natural light, a lack of privacy, outside spaces close to roads and railway lines and windows sited next to walkways and close to cars queueing on a traffic gyratory system.

DESIGN FOCUS

Carmona says big developers have been getting their way for decades but the tables are starting to turn. "Volume housebuilders have been able to get a lot of poor-quality development past local authorities. But this research shows councils can be far more confident in their exercise of quality control," he said.

He argues it is possible to increase the number of houses built without compromising on the design factors that allow a new community to flourish.

"We are in desperate need of housing but it doesn't mean we should build poorly designed, unsustainable places," he said.

His solution is that homes should have access to private open space. They should be big enough to comfortably live in, be well lit and have good insulation from noise. Neighbourhoods also need basic amenities, including open space and local shops and residents should be able to comfortably walk or cycle to them. The recent change to the country's planning rules was part of a package of measures that Ministers claimed would ensure new housing was "beautiful and welldesigned". The Government is setting up an "Office for Place" to help "communities encourage development they find beautiful, and refuse what they find ugly," so there are grounds for optimism that the tide is turning.

Trying to uphold standards of good design in new housing is the job of council planning departments, supported by experts in the Planning Inspectorate and professional bodies like the RTPI and TCPA. This seemingly onerous task has not been helped by council planning departments being left short of resources and expertise after a decade of cuts. Some restorative help was announced earlier this year when Homes England and the Department for Levelling Up agreed an investment of more than £200,000 in the Public Practice organisation to aid its expansion and increase the capacity and skills of planners in local councils.

It will be interesting to see if the promised reform of developer contributions, from Section 106 to the infrastructure levy will help create better designed and appointed neighbourhoods. The list of potential uses for the levy already includes affordable housing and infrastructure, local employment and training programmes, the provision and maintenance of open space, participating in carbon offset programmes, the production of transport and construction logistics plans, with Biodiversity Net Gain possibly to be added to the list.

We need to learn from the stress test that lockdown has given our homes and neighbourhoods and consider how we might adapt properties we are already living in, as well as building better homes now and into the future. Good design is needed to incorporate and reconcile what may appear to be competing demands. To coin a phrase, "this isn't rocket science," and while it might seem obvious, it is also true that in too many instances we are not yet delivering enough good quality houses in well designed places with appropriate facilities for all residents. These need to become the norm, not the exception.

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CASE STUDY

Bringing a sense of community



Plaza Collection is a 'community' of over 700 units being created in Mill Hill, London, with its focal point a new landscaped plaza alongside extensive commercial space. Terence Luo, director at developer Poly UK, talks to Jack Wooler about the genesis and USPs of the scheme.

PLAZA COLLECTION FORMS A "VITAL NEW GATEWAY" BETWEEN MILL HILL EAST STATION AND THE WIDER MILLBROOK PARK Plaza Collection, in Mill Hill East, London, is transforming the former Inglis Barracks site into a vibrant new 700+ home community with 'design-led' new homes, gardens and a new public square that forms a new focal point for the area. They are the work of a subsidiary of international developer Poly Development and Holding Group – Poly UK – building its first London development.

Positioned in a prime position at the entrance of Millbrook Park, Plaza Collection forms what the developer says is a "vital new gateway" between Mill Hill East Station and the wider Millbrook Park. It also opens up access to the wider site with the homes set amongst public walkways, landscaped gardens, pocket parks and a new plaza with circa 15,000 ft² of new commercial space.

The landscaped plaza is central to the development, with a lawn, seating and areas for leisure and relaxation.

"We wanted this to become a hub for the wider area, not just our immediate





residents," says Terence Luo, director at Poly UK. "Around the plaza is the new commercial space, which the area was really lacking before." The developer reports that it is close to agreeing tenants for these units.

Around this plaza, the homes themselves (many of which are available under Help to Buy), are in attractive mid-rise blocks clad in exposed brickwork with characterful gabled roofs, mirroring the traditional local vernacular.

Inside communal spaces, the interior design is focused on 'bringing the outside in,' with exposed brickwork in the concierge area and a living wall. A palette of greens nod to the site's former military heritage and the use of natural materials creates spaces for living that are both attractive, yet highly functional.

Bringing further temptation to buyers, the homes are light-filled, with a "focus on rich interior materials and elegant finishes," says the developer, which "gently pay homage to the site's former military heritage." All units benefit from either a balcony or terrace.

Residents can also access a range of amenities, such as the residents' function room with kitchen facilities and media room, and there is a 12-hour concierge to support modern lifestyles, as well secure underground parking with electric car charging points and cycle storage.

GETTING STARTED

Terence Luo says that the inspiration for project was a result of the firm discovering the site, which offered a "best of both worlds" location, and made for the ideal place for Poly to procure its first London scheme.

"It's extremely green and surrounded by countryside, yet is only 30 minutes from central London on the northern line," he says. "The borough of Barnet also features lots of outstanding schools – property in a good school area is historically a safe investment."

As such, the site was acquired in 2018 – but this was not without its challenges: "The area had only been partially remediated by the seller, meaning we had to fully document and verify the earthworks and all material removed from site for verification and validation by both Barnet Council and the NHBC. This was both technically and administratively intense, to ensure all works were carried out correctly." AROUND THE PLAZA, THE HOMES ARE IN ATTRACTIVE MID-RISE BLOCKS CLAD IN EXPOSED BRICKWORK WITH CHARACTERFUL GABLED ROOFS





"WE HAD TO FULLY DOCUMENT AND VERIFY THE EARTHWORKS AND ALL MATERIAL REMOVED FROM SITE FOR THE COUNCIL AND THE NHBC" Terence continues: "The construction of the project was impacted by Covid-19 related material issues; however, we stuck with our intended specification for sustainably produced materials where possible, with all the project timber coming from FSC sustainable sources and the steelwork suppliers all holding Sustainable Constructional Steels (SCS) certification."

Throughout this process, Terence tells me that integrating with the existing community was always a key focus. "We partnered with Mill Hill County High School, providing support to ensure its popular annual concert featuring the Royal Philharmonic Orchestra could continue during the programme," he says.

"While the pandemic brought many events to a halt in 2021, in 2022 Poly is looking to reignite its work with the school, local community groups and organisations, with exciting plans to host summer events on the plaza."

In order to realise this project to a high standard, Bennett Construction was appointed as main contractor, and architects Chapman Taylor were brought in to design the development. Poly also engaged "globally renowned" Michaelis Boyd as interior designer for the project. Terence says this was a rare feat at this price point – with the homes starting at circa £400k with Help to Buy available – and "creates a real USP."

He explains: "Michaelis Boyd is an award-winning architecture and interior design studio based in London and New York, with projects including Soho Farmhouse and Battersea Power Station as well as numerous high end global hotels."

ENVIRONMENTAL ENERGY

Terence also tells me that, across the initial design processes through to construction, the team were heavily focused on their low-carbon strategy, which was implemented across the development, including highly insulated and airtight building fabric, energy efficient MEP systems and the connection to a district heating network.

He explains how an 'energy hierarchy' approach was taken – a design approach used to reduce the energy demand of a development – resulting in a CO_2 emissions reduction of 43.6% below the Building Regulations 2013 Target Emissions Rate for gas heating. The



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"THE CEILINGS ARE HIGHER THAN USUAL – WHICH YOU DON'T SEE THAT OFTEN IN NEW BUILDS THESE DAYS"

design also includes measures that will help mitigate and adapt to climate change, such as SuDS, "best practice flood resilience measures," and use of "green infrastructure" to "minimise and mitigate heating" to the urban environment. Further, the development improves

Further, the development improves site biodiversity thanks to its surface water attenuation, and the "utilisation of native species or species with a known benefit to wildlife." This includes features specifically designed to benefit pollinators and other invertebrates, as well as birds, bats, hedgehogs and other wildlife.

FEEDBACK

Now, with phase one and two – comprising 129 one and two bedroom apartments – complete, with over 90% of homes sold and many residents enjoying their new community already, Terence says the feedback so far has been "fantastic."

"The development is now the most recommended project in the area, with five stars on Google and glowing feedback from purchasers. The next phases have also just been released, to high demand."

In order to demonstrate just how happy residents are with the homes, he provided Housebuilder & Developer with a quote from 39 year old property professional Jaiesh Makwana who purchased a top floor, two bedroom apartment with his partner who works in communications.

Jaiesh said: "We had been working really hard for the past few years and were ready for the next chapter. We were moving from Watford and wanted a suburban location that was close to the buzz of central London, but with lots of green space, which was very important to us. We discovered Mill Hill, which ticked all of our boxes – it had the perfect balance. We then stumbled upon Plaza Collection, and could see the location was excellent, right opposite the station!"

Jaiesh is also a big fan of the design: "As soon as you walk in, it's bright and airy – the ceilings are higher than usual – which you don't see that often in new builds these days. The colour palette, decor and fixtures are all perfect, and there is a real sense of quality throughout every aspect. There is a big private terrace which was one of the main selling points for us – it's huge, and has excellent views as far as the eye can see. The whole development feels extremely well designed and is bringing something new to the area with the landscaped plaza."

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CASE STUDY

Estate of independence



ONLY DEMOLITION AND REDEVELOPMENT WOULD PROVIDE A LONG-TERM SOLUTION

Before newly-independent housing association Salix Homes got involved, other contenders had been put off by the scale of demolition needed at a major estate renovation in Salford. Terry McBride of Salix explains to Jack Wooler how they achieved vital community buy-in in their first new build.

The Poets Estate in Swinton, Salford, was in desperate need of regeneration – historic mining in the area had led to severe structural defects and subsidence in many properties, and only demolition and redevelopment would provide a long-term solution.

The investment needed was substantial

however – $\pounds 22m$ – and with public money scarce, the estate, made up of 1930s semis and terraces, remained untouched for decades.

Salix Homes – the award-winning Salford housing association providing social and affordable homes and housing services – became an independent association in 2015. It was only when the successful stock transfer took place for this that the funds for this project were unlocked.

According to Terry McBride, development manager at Salix Homes (who's overseeing all its new build developments and delivering on the organisation's growth ambition), because of all these factors, the project was a "particularly challenging regeneration." It required both the demolition of 146 sub-standard properties, and building 160 new homes in their place.

"This was Salix Homes' first new-build



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project," he says, "but what made it so unique was that it was not just our regeneration project – it belonged to the community, and we wanted them to shape and deliver their own vision."

He believes that the latter was no small part in the project's success: "The community is the heart of this estate, with many spending their whole lives here. We had to preserve that wonderful sense of community spirit."

AFFORDABLE GOALS

Fully occupied earlier this year, the 160-home development comprises 120 social housing properties, plus a further 40 homes for outright sale, which were made available through Help to Buy.

The scheme is made up of two, three and four-bed homes, with 75% being affordable – as compared with the national 10% requirement; helping to achieve Salix's aspirations to provide more affordable housing in Salford.

Across the site, the housing typology varies from 2B4P to 4B6P houses. Although the internal square meterage may vary, the properties' general appearance share the same qualities, creating a cohesive aesthetic.

Living accommodation and access to the private gardens is provided to the ground floor with bedrooms and family bathroom located on the first and second floor, in the town-house style homes. Each property has been provided with off-street parking to the front, creating a "cleaner street scene."

The architectural language chosen borrows the proportions, detail and materiality employed around the wider, established estate, but expressed in a more "modern and modest" way, commented the project team.

Of the new homes' popularity, Terry says "demand has been high." He adds: "We had over 100 people on the waiting list for the new-build sales units, and when we released the first homes for sale off-plan, they were reserved almost immediately, showing the scale of the need for such developments."

FABRIC FIRST

The scheme began onsite almost five years ago, but Salix has been developing proposals with the community for many years before that.

"Our first step was to launch The Poets Steering Group, made up of residents, councillors and representatives from Salford Council and Salix Homes, to root the proposals in the community right from the start, and enable them to lead the consultation," explains Terry.

The scheme was then developed with a fabric first approach to achieve and exceed Building Regulations where possible, and improve energy efficiency through various measures. These included high levels of insulation and accredited airtightness details to reduce heat loss, glass specification exceeding Building Regulations thermal requirements, and appliances with high energy efficiency ratings.

For the exterior of the project, the landscaping has been carefully designed by award-winning landscape firm TEP to complement and integrate with the existing ecosystems. Their proposals response to the setting being within an urban area, but adjacent to a large park.

"The aspiration behind the proposals

"WHAT MADE IT SO UNIQUE WAS THAT IT WAS NOT JUST OUR REGENERATION PROJECT – IT BELONGED TO THE COMMUNITY" – TERRY MCBRIDE, SALIX HOMES



was to provide a landscape that delivers a strong sense of place, increased biodiversity, and a safe and secure environment, but which was also a desirable and healthy place to live," says Terry.

MINIMAL DISRUPTION

Salix Homes worked closely with The Poets Steering Group to complete proposals for the estate back in 2016. The group quickly voted in favour of redeveloping the estate – including the major demolitions. Then Salford City Council – which was also involved in the consultation and proposals for the development – granted planning permission, and construction began the following year – 2017. The very last residents moved in during February 2022.

The construction was phased in order to minimise disruption for residents. First Salix worked with partner contractors Vistry Partnerships, which delivered the first two phases of the development using traditional masonry construction. Construction company The Casey Group delivered phases 3 and 4, which have timber frames.

Terry comments: "Regeneration projects involving demolition can lead to

community tensions, but we've ensured residents have been involved from start to finish; with tenants affected by demolition proposals temporarily rehoused close-by and given priority for moving back into the new properties."

As such, he believes that early engagement with residents is key, along with ongoing communications. "We've held resident meetings, drop-ins, utilised social media and produced regular community newsletters to keep everyone updated as the scheme progressed."

"With such strong community ties and attachments to the area, it was crucial we had a truly inclusive scheme developed in conjunction with residents, and we've prioritised keeping neighbours together – those who wanted to be – in the new homes."

COMMUNITY SPIRIT

According to Terry, the completed project has successfully reversed the decline of the once ailing estate, and delivered new housing to help tackle the housing crisis, and the feedback from the residents, particularly those affected by demolition, "has been fantastic."

"One of the first residents to move in was our tenant Gail Howell," he explains.

THE SCHEME IS MADE UP OF TWO, THREE AND FOUR-BED HOMES, WITH 75% AFFORDABLE – AS COMPARED WITH THE NATIONAL 10% REQUIREMENT



"She moved to the estate with her parents over 50 years ago, when she was six years old. For her, it was paramount that she could stay living among her old neighbours."

Gail commented: "We were so glad to be given the chance to move back – this street will always be home for me. Ours was such an old house and the damp was creeping in, but now we've got a brand-new house on the street we've always lived."

He then tells us about Gail's neighbour Christine (who was also living next door before the project), who commented: "I'm still living by my best friend, who I've known for over 35 years. We're a close-knit community, we all look out for each other – it's very important to us that the neighbours could stay together."

Terry sums up: "At the heart of the estate has always been its community, with many having lived their whole lives here, so we're incredibly proud we've been able to deliver desperatelyneeded affordable and social housing while retaining those community ties and friendships."

PRIDE

Terry believes that much of the success of this project comes through the housing association's passion and commitment to helping tackle the housing crisis and increase housing choice. "At a time when social and affordable housing is in such short supply, we're very proud this development has not only provided a long-term solution to the estate, but also increased housing choice in the area, bringing new, modern homes to both people on the social housing register and aspiring homeowners," he says.

"This area has always been known for its real strength of community, so it's fantastic to see residents, both new and old, settled in their new homes."

He has a genuine belief that Poets is "a shining example" of partnership in action, and a real testament to the collaboration between the HA, Salford Council, contractors, local councillors and, "most importantly, the community," in delivering this project.

"The development has not been without its challenges, particularly as this was Salix Homes' first new build project, and involved a huge operation to temporarily relocate residents while still preserving community," he continues. "We've also had to navigate through the pandemic and subsequent material and labour shortages."

He concludes: "It's been a learning curve, but thanks to careful management, Poets is one of our biggest success stories. We've preserved and enriched that sense of community that Salford is so famous for."
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THE BUILDING BLOCKS OF SUCCESS



To celebrate the family firm's 75th anniversary, Jack Wooler of Housebuilder & Developer talks to Giles de Lotbiniere, Chairman of Lignacite, about the company's foundation, and what makes it special.

In 1947, retired ex-serviceman and engineer, Sir Edmond de Lotbiniere, was approached by an inventor who had produced a new mix design for concrete blocks.

This was an attractive prospect – being just a few years after the War, there was a great shortage of building materials, and a clear desire to rebuild damaged sites across the country.

As such, together they began a journey that would continue through Sir Edmond's family to this very day.

Producing blocks from the inventor's formula in Brandon, Suffolk, where Sir Edmond was living, the beginnings of Lignacite were born. Soon, Sir Edmond had recruited his old Sergeant Major from his regiment, who became Lignacite's first works manager, and the company bloomed rapidly.

Ever-expanding from these humble beginnings, Lignacite has since grown over its 75 years into the acclaimed manufacturer it is today – with its blocks having been used in prestigious projects across the country – all while retaining its family ties, with Sir Edmond's own Grandson, Giles, standing as the company's chairman today.

"Surviving for 75 years is a noteworthy achievement and one we are incredibly proud of," says Giles, commemorating the event.

"Lignacite has always stood for a high-quality product backed up by very good customer service, and as a company, we have always had a genuine desire to supply the best product that we can to our customers – and that's a standard we continue to set for ourselves each and every day."

THE MAGIC INGREDIENT

Going back to the company's inception, at first, the inventor's original formula for Lignacite's blocks included wood, sand, cement, and an expensive admixture.

Telling the story from here, Giles says that, "when one day, the team ran out of this admixture, my Grandfather said 'nevermind, let's continue making the blocks anyway."

"To their surprise," he continues, "they





turned out equally well – in fact, even a little better – without the admixture."

As it turned out, the "magic ingredient" was wood, which he tells me makes the blocks light, warm, smooth, and robust in a fire.

As such, the company actually takes its name from 'Lignum,' which is the Latin word for wood, and to this day, the company continues to make Lignacite blocks with the same mix design.

To further explain the benefits here, "something quite fun," says Giles, "is the sales technique used by my Grandfather."

"He would take a Lignacite block to a trade show with a wooden hand saw and a hammer and nail – he would then cut the block in two with the handsaw, and then knock a nail into one half, showing the versatility of the block, and just how easy it was to build with."

"There are very few blocks that you can take a handsaw to and cut in half," he continues, "if you are putting in electric cables or anything like that into a wall, being able to cut or chase into a block is a very valuable feature."

Being part of what makes Lignacite unique, Giles believes that nobody else puts wood into blocks. This, he argues, is because it is a relatively expensive aggregate – the sugars in the wood decelerate the setting of the cement, meaning you have to put more cement into the blocks.

The expense is more than worth it though, he argues: "A normal, dense, aggregate concrete block will heat up to a certain degree and then shatter. Whereas, if you have wood in a block, it won't burn because it's locked up in the matrix of the block and the oxygen can't get to it.

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Instead, it calcifies and goes black and hard. As a result, Lignacite blocks have a very good fire rating."

Besides this, in more recent times, he tells me that blocks containing wood have also been recognised for having the attribute of locking up CO_2 : "Because trees absorb CO_2 for photosynthesis, which is an essential process for all plant growth, it means that putting wood into blocks locks up that CO_2 permanently."

THE PROOF IS IN THE PROJECTS

This winning formula has been a clear success, not least evident in the wide range of revered projects the blocks have been installed in across the country.

When listing these to me, two of the major projects that immediately stand out are The Gherkin and The Shard, which, as Giles says, "are not only iconic British buildings, but iconic buildings worldwide."

The Shard, for example, was built using 140,000 Lignacite blocks, each containing over 50% recycled material. These were used to construct the four basement levels, providing a substantial platform for Western Europe's tallest building. To construct The Gherkin, 10,000 m² or 100,000 blocks of Lignacite were used in the central core.

"Those we supplied for the Olympics were also some of the most prestigious and fun," says Giles. "We were involved with six projects altogether. Those were the Olympic Stadium, Velodrome, Athletes' Village, Orbit Tower, Westfield Stratford City shopping centre, and the Handball Arena."

"We're also proud of the many innovative AFM projects we have been involved with and the ongoing product development that we have conducted throughout the years. We have very much led the way in using glass and recycled materials in masonry."

He continues: "We've also had some really fun projects like The Wedding Chapel in Blackpool, which was designed by dRMM and constructed from blocks containing blue luminescent glass in a matrix of limestone. They were then polished and cut into Roman brick, which was staggered and built to look like the prow of a ship.

"The glass warms up during the day and then gives off a luminescent glow at night, making the whole building glow – it was a really spectacular project that caught a lot of people's imaginations within the industry and beyond."

ECOLOGICAL INNOVATION

Despite achieving a record turnover in 2021, with customers keen to reach for a trusted and proven product during uncertain times, Lignacite is not resting on its laurels and hopes to be ahead of the crowd where it matters – focusing especially on the company's ecological innovation.

While the Government is now mandating an industry-wide Net Zero target for 2050, with interim measures, Giles tells me that Lignacite had already committed to its own, earlier target of reaching Net Zero by 2030.

"We have been working towards this goal for a number of years," he explains. "We already put a lot of recycled and renewable aggregates into our products and not much energy is required to produce concrete blocks."

He tells me that blocks have a "very low embodied energy," which he explains is in part because they cure largely without any additional heat or energy requirements.

"A brick needs to be fired in a kiln, whereas our kilns get up to about 40°C just through the exothermic process of cement going off," he says. "So, as long as you start with your temperature at 2 or 3°C and you fill up a kiln with uncured concrete blocks, the temperature will get up to 40°C and they cook themselves. They, therefore, have half the embodied energy of a brick and a fraction of the embodied energy of steel."

"We also have our own borehole at Brandon and recycle all of that water, using it within our manufacturing process."

Further, the company is already generating "a fair proportion" of its electricity through solar panels, Lignacite recently implemented an app-based electronic proof of delivery (EPOD) system and is "continually" trying to find other recyclable materials for its products.

An "innovative and amusing" example he gives me here of the latter was during the construction of the Athletes' Accommodation in the Olympic Village, with the client requesting green glass in a particular block.

"It was difficult to get hold of the green glass, so we got everybody to drink lots of wine and bring the bottles in," he says.

"We then ran over them with a roller, crunched up the glass, put it into the blocks, and started to supply them, only to find out that they didn't want the green glass and it had to be brown! So, we then had to drink lots of beer and bring the bottles in. The eventual project, sure enough, involved brown glass!"

ROOTS AND BRANCHES

Now looking to the future, Giles is excited that, in 2023, the company will be fully operational at its new Brandon plant, which is currently in development. He says this will lead to even greater efficiencies and consistencies than ever before.

"I hope in the next few years we may have secured permission to develop our site at Nazeing and be able to expand that," he says.

"We certainly should be a way down the road of having found another source of aggregate or have invested in securing our own aggregate supply."

Of the company's continued role in construction in the future, amidst a rapidly changing landscape, Giles feels strongly that, "while new building designs and concepts come and go – whether it's timber frame or offsite construction – in the 30 years that I've been involved in the industry, bricks and blocks have survived, and continue to be a very cost-effective and versatile method of construction."

"I'm confident that in 10 years' time that will be unchanged – so long as we keep innovating and keep using a high proportion of recycled materials, we can go on producing a very good and sustainable product that people want and need."

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BUILDING SAFETY INTO LAW

Have you heard of the Building Safety Bill?



How well do you understand the Building Safety Bill?



EXECUTIVE SUMMARY

The harrowing disaster of the Grenfell Tower fire shocked the nation – with the questions on everyone's lips being, how could this have been allowed to happen, and who was responsible?

Following the June 2017 fire, a series of investigations were undertaken to answer these questions – including public inquiries, civil lawsuits, and an Equality and Human Rights Commission Report – all of which pointed to one thing: building safety in the UK is severely lacking.

Intended to prevent such a disaster from happening again in this country, in 2017 a review of the Building Regulations was commissioned by what was then the Department for Communities and Local Government (DCLG), led by Dame Judith Hackitt, former Chair of the Health and Safety Executive (HSE).

Termed by many the 'Hackitt Review,' the team published a scathing initial report, which described the entire building regulatory system as "not fit for purpose," imploring the industry that the mind-set of doing things "as cheaply as possible" and passing on responsibility for problems and shortcomings to others "must stop."

While interim measures were introduced – with the Government targeting aluminium composite material (ACM) cladding in particular – in order to enact Hackitt's wider recommendations, the Building Safety Bill was announced as Whitehall's full response.

Only recently (April 2022), more than four and a half years after the fire, the Bill has finally received Royal Assent, and the 262-page Act has been released. Introducing sweeping changes across the industry, from a new construction products regulator to refreshed regulatory framework for builders, the Building Safety Act is argued to be the biggest change in building safety for over 40 years.

As ever, such changes bring fresh challenges to an already stretched industry. But, with such dire consequences apparent – and huge swathes of people across the country feeling unsafe in their own homes – there were relatively few standing in the way of its assent, considering the weight of the moves.

Despite the near-universal understanding for its need however, there remain many barriers to the adoption of these



new rules and regulations, and many in the industry have criticised the way they have been implemented.

Aiming to find out – from the industry itself – the sector's views on the issue, *Housebuilder & Developer* conducted a survey of its audience – just weeks before the Bill received assent.

Though the majority were shown to agree with the need for building safety reform, our research revealed that when this survey was taken, a shocking 31% of respondents had not even heard of the Bill, and of those who had, only around half said they had a good understanding of what it entails – with 40% of respondents reporting a lack of information as one of the largest barriers to compliance.

As the full white paper report (available free at www. hbdonline.co.uk) shows, housebuilders' and developers' willingness to change appears to be strong. The awareness of the need for change is clear among the vast majority, but the Government has its work cut out in getting them up to speed – and the urgency is acute.

THE HISTORY BEHIND THE BILL

Fires in housing schemes have of course been a continual problem and concern since before records began. In England, however, it was not until the 19th century that the origins of standard fire tests began to appear, and it wasn't until 1965 that the first Building Regulations for England and Wales started to take shape.

Though there have been innumerable steps forward within building safety since this point, deadly fires have continued to occur in recent decades.

According to Home Office Statistics, there were 28,504 dwelling fires attended in England alone in 2019/20, with 285 fire-related deaths across the UK in the same year.

Often, on the smaller scale, these fires involve predictable, preventable causes, from faulty appliances, to smoker's materials and poorly maintained or installed electrical systems. On the larger scale incidents, the causes of serious fires can often be attributed to poor building design – which, as those on the small scale, are often predictable, and preventable.

CLADDING FIRES

When full details of the horror that had occurred in the 24-storey Grenfell Tower in North Kensington – taking the lives of 72 residents and injuring over 70 more – reached the industry, it was called a "tragedy foretold."

construction industry has failed to self-regulate?

Was the Grenfell disaster a demonstration that the



Arguably the headline factor blamed for the Grenfell disaster, the cladding had been shown to drastically increase the pace of the fire, and, as many decried, this was nothing new.

One of the earliest fires that involved cladding materials was the 1973 Summerland disaster on the Isle of Man, which caused 50 deaths. Investigations around the fire found that part of the reason it spread so quickly was due to the acrylic sheeting on the exterior of the building.

Then, in the face of this, in 1991 a fire spread up the entire height of the 11-storey Knowsley Heights building on Merseyside, again attributed to its exterior cladding – though thankfully nobody was injured in this instance.

Regrettably, history carried on repeating itself, and in 2009, the Lakanal House fire occurred in Southwark, killing six, with its cladding once again contributing to the speed of the fire spread on the 14-storey block.





REACTION

After Grenfell, as after all of these incidents, there were accusations levelled from both within the industry and without, and promises were made by many to address the problems.

For the Grenfell disaster in particular, the ACM cladding specified was just one of the failings that led to the events that unfolded, and as such, serious investigations needed to begin to understand the failings behind it.

As well as a full public inquiry, led by Sir Martin Moore-Bick – which is still ongoing at the time of writing (May 2022) – Building Regulations quickly came under review, with widespread concerns as to the effectiveness of the rules in place, and their lack of enforcement.

Part of this response, the Hackitt Review made a number of recommendations to reform what Dame Judith deemed "an industry that has not reflected and learned for itself," arguing the need for a "radical rethink of the whole system."

Intended to apply to new and existing residential buildings of 18 metres and above, later amended to 10 metres and above, these wide-ranging recommendations included a new regulatory framework, stronger change control processes, new dutyholder roles and responsibilities, and a series of robust gateway points to strengthen regulatory oversight.

LEGISLATIVE ACTION

In order to make these recommendations a reality, The Building Safety Bill was first revealed in the Queen's Speech in December 2019, and later received Royal Assent in April 2022.

Set to take shape over the next 18 months – with secondary legislation necessary to uphold many of its provisions – the Act includes various step-changes to the way homes will be built.

On its assent, the Government released a roadmap of the changes to be introduced, including the initial moves over the next 12 months – such as the formation of a Resident Panel, changes to the Regulatory Reform (Fire Safety) order, and additional powers for the regulation of construction products. These include the establishment of a Building Advisory Committee, the Mandatory Registration of Building Inspectors and Building Control approvals, and the new duties placed on 'accountable persons' to oversee fire safety in new residential construction projects.

It appears then, that there is a concerted approach to improving safety. Our research has revealed however, that things aren't moving quite as smoothly as they might seem at face value.





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46 INDUSTRY VIEWFINDER - BUILDING SAFETY BILL

What do you believe main barriers to the adoption of the Building Safety Act will be?



PROBLEMATIC RESULTS

AWARENESS

Though the sweeping changes that the Bill (now Act) will bring are seen by the vast majority of the industry who are aware of its existence to be a welcome move, our research has revealed that it is in awareness itself in which the Government has seemingly failed so far.

With the Building Safety Act now set in law, just weeks after our survey was conducted, just 7 out of 10 (69%) respondents had even heard of the Bill, with 31% having never heard of it in our survey. This was only made worse by the fact that, of those who had heard of the measures, just 19% said they 'entirely' understood it, with 36% saying they understood it 'well', 39% 'little,' and 6% 'not at all.'

BARRIERS

Unfortunately, a lack of understanding is not set to be the Government's only problem in engaging the industry.

When asked to list what they perceived to be the main barriers behind the adoption of the Bill – as is usually the case in our surveys – a lack of funding/cashflow issues emerged front and

centre, with almost half of our respondents (47%) listing it as a main barrier.

This was then followed by the potential for the Bill to slow the planning process (45%), a lack of information (40%) and industry engagement (36%) as above, and the potential for a more expensive/complex insurance process (33%).

Of the barriers listed that were chosen by less than a third of our respondents, a slowed pace of construction in general was chosen by 29%, followed by the potential of additional taxes (27%), the remediation of cladding (25%), the increase in regulations for housebuilders to keep track of (25%), the ability of owners to seek compensation from residential developers (21%), and the discouragement to the construction of tall buildings (15%).

ENGAGEMENT

Fortunately, there were some silver linings revealed in our research.

Engagement, for example, was oddly not shown to be as low as the understanding or awareness of the Bill.





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48 INDUSTRY VIEWFINDER - BUILDING SAFETY BILL



How has the Government performed in engaging the following stakeholders in the Bill?

When asked how they would rate the Government's engagement with various stakeholders, a small majority of respondents reported that it had done 'quite' or 'very well' engaging all the listed stakeholders. The degree of engagement with architects, for example, was rated at 13% very well, 44% well, 31% quite poorly and 12% very poorly, and similarly, engagement with housebuilders and developers was rated at 10% very, 49% well, 25% quite poorly, and 16% very poorly.

Another positive in terms of engagement is that of those who had heard of the Bill prior to our survey, two-thirds (67%) said they had already begun making changes to accommodate the expected rules and regulations.

CONFIDENCE

It is also a positive that – regardless of whether they had heard of or understood the impact of the Bill – there was a fairly widespread understanding of the need for the changes that the Bill will introduce across our respondents.

When asked whether respondents believed the Grenfell disaster was a demonstration that the construction industry has failed to regulate itself, for example, just 24% said no, with over three-quarters of respondents (76%) admitting that it showed the industry was at fault.

Then, once they became aware of the Bill, when asked if they believed it would make residents feel safer in their homes, over half (57%) said yes, with just 15% disagreeing with this, and 28% being unsure.

They were also asked here whether the Bill would make tenants feel more confident in renting a flat in a building above 18 metres, to which 64% said yes, with 9% saying no, and 27% unsure. Confidence for buyers revealed a similar spread of respondent views, at 65% yes, 8% no, and 27% saying they didn't know.

Then, when asked if respondents believed there will be an overall improvement in the perception of safety in buildings in the UK, 64% said yes, 12% said no, and 23% didn't know.

In a slightly less clear result, around half of the respondents believe the introduction of the Bill is an adequate response to Grenfell, and around half that it is not, with 13% saying it exceeded expectations, 37% believing it's a proportional response, 33% that it's something, but not enough, and 17% that it in no way meets expectations.





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50 INDUSTRY VIEWFINDER - BUILDING SAFETY BILL

Which of the following statements would you agree with most about the introduction of the Building Safety Bill?



CONCLUDING SUMMARY

he construction industry – as corroborated in our survey – has failed in regulating safe specification of residential projects. Against this backdrop of failings, a series of terrible catastrophes have led to many lives lost, and decades of distress caused.

Post-Grenfell, it was made clear to most of the industry that further intervention was necessary to improve our outdated building standards, and bring about accountability on those responsible for keeping residents and owners safe from their own properties.

Following many of the recommendations of Dame Judith Hackitt's post-Grenfell Report, the sentiments behind the widespread changes the Building Safety Act is now introducing to achieve this have been widely encouraged and accepted by our respondents.

Unfortunately however, there remain significant barriers in facilitating these changes for housebuilders and developers, with the potential for rising costs, more complex insurance processes, and slower planning being among the most common worries among our respondents.

Perhaps the most significant barrier shown in our research – and the most worrying element of the data our survey revealed – was the lack of awareness and understanding of the Bill among our respondents, with a surprising amount of our respondents having not even heard of it before we contacted them, just weeks before it received Royal Assent.

Much of the Government's work is already done – the Bill now enshrined in law, and the cogs on achieving culture change already turning. The majority of housebuilders and developers are on side with the need for such changes. However, the Government has so far failed in seemingly the most basic task of helping the industry understand what's being asked of it, and letting them know that change isn't just coming, it's already here.

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HOUSING SECTOR MEETS AGAIN IN MANCHESTER

Housing, the Chartered Institute of Housing's annual conference – and what is said to be 'Europe's largest housing festival' – returns to its normal slot, post-Covid, staged from 28-30 June at Manchester Central.

ERINGE STAGE

In 2022, there is more to talk about in housing than ever before: the levelling-up agenda; professionalism and skills; leadership and innovation; town-centre regeneration; partnerships for the delivery of more affordable housing; sustainability and retrofitting of old housing stock; delivery of safe, high quality housing; funding and driving the economic recovery.

Say the organisers of "All this sits under the umbrella of what drives us all across this sector: ensuring the needs of tenants and residents are at the heart of our endeavours."

Housing will bring over 150 hours of CPD accredited content covering the economic landscape, building safety, homelessness, housing delivery, affordability, funding, climate change, plus "lots more of relevance to everyone working in UK housing."

From the Government, the Minister of State for Housing, Stuart Andrew MP is one confirmed speaker, who'll be joined by a range of industry leaders such as:

• Joanna Averley, chief planner, Department of Levelling Up, Housing and Communities

• Peter Baker, chief inspector of buildings, Health and Safety Executive

- Grace Carroll, head of EV charging policy at Department for Transport
- Kate Dodsworth, director of consumer
- regulation, Regulator for Social Housing
- Richard Blakeway, housing ombudsman

• Michael Wayne Bexton, director of carbon reduction, energy and sustainability, Nottingham City Council

• Ellie Horwitch-Smith, assistant director of 'route to net zero,' Birmingham City Council

- Martin Brown, managing director of special projects, McCarthy Stone
- Alysha Burrell, assistant land and planning manager, Taylor Wimpey
- Georgina Patel, decarbonisation strategic lead, Halton Housing

• Andrew Yuill, director of strategic asset management, Flagship Group

LEARNING

Visitors will have six stages of CPD accredited sessions on the show floor, including the Fringe Festival stage, Connected Futures stage, Unlock Net Zero stage, Knowledge stage, Insight stage, and PfH Live.

There will be a strong focus on meeting net zero targets throughout, including:

- Expert speakers on the Unlock Net Zero stage
- A climate change 'hackathon'
- An exclusive funding guidance workshop with the Department for Business.

"Visitors will be able to network with the whole supply chain including the main procurement frameworks, key technology providers, contractors, and innovative product solutions," said the organisers.

The event will provide the opportunity to "reconnect with colleagues, peers, key partners and friends at exclusive drinks receptions and networking events, in-depth breakfast briefings." Visitors will also be able to share best practice during tailored round-tables.

Housing is the must-attend event for local authorities, housing associations, key partners and suppliers, government, housebuilders, and developers, with "something for everyone."

Book your place for Housing 2022 at

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*Visitor passes are free to housing associations, local authorities, public sector, housebuilders, master developers, funders, architects, planners and BTR landlords, student accommodation, retirement living and extra-care providers. Fees will apply to other commercial organisations.

HOUSING 2022 STAND NO B20

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tenants to benefit from the many advantages the wall panel system offers. From an installation perspective, Fibo's wall panels are five times faster to install than tiles, as they can be fitted directly over existing tiles (ideal for bathroom renovations and adaptations), plasterboard and studwork, and with only standard carpentry tools required – enabling housing providers to complete more bathroom renovations in a shorter period of time.

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Panasonic exhibiting at Housing 2022



Panasonic Heating & Cooling is thrilled to announce they will be exhibiting at CIH – Housing 2022 this year in Manchester, 28-30 June, Stand E55. On display during the show, Panasonic will be showcasing their Aquarea range of Air to Water Heat Pumps that offers domestic properties a more sustainable,

HOUSING 2022 STAND NO E55

energy efficient and cost-effective energy source for not only heating homes but additionally they provide a supply of hot water. Furthermore, Panasonic experts will be on hand to demonstrate their intelligent range of remote smart controls to show how users can monitor and keep track of their energy usage to help cut costs and be more energy efficient.

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HOUSING 2022 STAND NO C37

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'Team massive' to conquer three peaks



Eight employees from **Designer Contracts**, the UK's largest flooring contractor, are in training for a charity challenge to conquer the famous Yorkshire Three Peaks. 'Team Massive' aims to take on the peaks of Pen-y-ghent, Whernside and Ingleborough,

in under 12 hours, on July 16. The aim is to raise at least £500 for Ashgate Hospice in Chesterfield, the Derbyshire town where Designer Contracts is headquartered. Designer Contracts md Peter Kelsey has promised to match whatever Team Massive raises through its Just Giving page. The company is a long-time supporter of Ashgate Hospice. Last year it donated more than £100,000 to the charity after running an online Christmas prize draw.

www.designercontracts.com

www.justgiving.com/fundraising/DCYorkshireThreePeaks

Glidevale on board with Offsite Alliance



Glidevale Protect is collaborating with leading offsite construction partners and reinforcing its expertise within the sector by becoming a member of the Offsite Alliance, the not-for-profit Community Interest Company that aims to promote and prioritise the use of modern methods of construction. With a proven

track record of supplying a variety of offsite projects, ranging from private and social housing to education builds, Glidevale Protect is a specialist in energy efficiency, ventilation, condensation control and damp proofing across the built environment.

0161 905 5700 www.glidevaleprotect.com/offsite-manufacturing

New Logistics & Operations Manager for Reginox



Sinks, taps and accessories manufacturer, **Reginox UK**, has bolstered its Logistics and Operations team by bringing Greg Warwick on board as manager. Greg has joined Reginox UK, based on Radnor Park Trading Estate in Congleton, as its Logistics & Operations Manager, and has grand plans in his new role.

With more than 30 years of experience in this area, Greg will be managing the Reginox UK warehouse team, as well as maintaining all Health and Safety measures in place, managing stock levels and cross-checking finance and budgets. Greg will be reporting to Reginox UK's Commercial Director, Dave Mayer, monthly, outlining processes and workload figures.

sales@reginox.co.uk www.reginox.co.uk





Domus Ventilation, manufacturer of market-leading ventilation systems that save energy and improve indoor air quality, is pleased to announce the appointment of Jessica Cook as General Manager. Jessica's comments: "The passion in this company astounds me. From the moment I set foot into the

Domus office it just got under my skin. The people are brilliant, passionate, they really care and want to make a difference. The whole ethos is about being customer centric and what complete solutions we can offer to help take away pain points, and for our products to improve the lives and health of occupants. I have an enormous amount of drive to help this brilliant company progress even further, because it absolutely deserves it."

vent.info@domusventilation.co.uk www.domusventilation.co.uk

Reginox welcomes latest member to team



Sinks, taps and accessories manufacturer, **Reginox UK**, has welcomed its latest member to its sales team – David Linwood. David has joined Reginox UK, based on Radnor Park Trading Estate in Congleton, as its new Area Sales Manager for the South-West region. With more than 25 years of retail experience, 10 being in the KBB sector, Bristol-based David will be managing clients from across the

Reginox UK portfolio within in the South-West region, as well establishing new client relationships. David will be reporting to Reginox UK's recently promoted National Sales Manager, Gareth Hughes, and supporting him in growing the business to reach its ambitious targets for the year.

01260 28 00 33 www.reginox.co.uk

New appointment for Kinedo



The **Kinedo** sales team is expanding with the appointment of James Day as Area Sales Manager – South James joined in March 2022 – just in time for the start of the KBB Show, where he was able to connect with new and existing customers. Prior to joining the Kinedo sales team James worked in the plumbing sector for 18 years as Manager of two different merchants in Sussex. His new role will entail generating displays, as well promoting general awareness of the Kinedo range of cubicles, enclosures

and trays in the retail and merchant sectors. James has known the brand for many years, but was impressed by the latest additions to the range.

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Solutions for After Sales

GEZE UK, the UK subsidiary of GEZE GmbH, a leading manufacturer of door and window control systems, has introduced the After Sales Solutions brochure that details the after sales services GEZE UK offers for manual and automatic doors and windows. The brochure explains the benefits of regular servicing – maintaining accessibility, minimising downtime, prolonging usability, reducing lifetime costs and fulfilling an organisation's responsibility as a building owner or facilities manager. GEZE UK's after sales team can install, maintain, repair, provide asset management, spare parts and refurbish existing doors and provide a full range of services for automatic doors, industrial doors and fire doors. The brochure is available digitally by visiting the company's website or for a copy to be emailed, or for detailed information on the after sales services available email info.uk@geze.com. Adam Presdee, Service Director of GEZE UK, said: "GEZE UK offers a complete 'umbrella' of after sales solutions for all doors automatic, manual and industrial. This brochure encompasses our approach whilst explaining the operational, commercial and environmental benefits of having a good maintenance regime and partner. We offer a service package that is tailored to each individual customer's needs."

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Aero Pitch skylight is pitched roof perfect



Rooflight pioneer **Sunsquare** has launched Aero Pitch – the world's most advanced and thermally efficient skylight for 20-60° tiled roofs. Making its first appearance at Grand Designs Live, Aero Pitch is not only fully automated; it's condensation free, holds a BSI Kitemark for its safety and quality and is incredibly easy to install, with one universal flashing kit to fit any roof. As with

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Housebuilder & Developer website



The Housebuilder & Developer (HBD) website is an online provider of past and present products and news items for the housebuilder and developer. hbdonline.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital issues that have live

links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

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Resapol's new brochure hot off the press

Resapol, the UK's trusted suppliers of specialist construction products, are extremely proud to announce the launch of the first edition of their Contractors Essentials Brochure. The concise brochure has been designed to give an overview of the key products available from Resapol. The full product range totals some 6,000 products and this brochure gives a glimpse at some of the best sellers across the main product categories. The product selected are from some of the world's biggest manufacturers, spanning waterproofing, concrete repair, sealants, adhesives, grouts, flooring, roofing, highway and landscaping products.

Each product in the brochure features key information as well as details of ancillary products that should be used in conjunction, such as primers, applicator guns and other similar accessories. QR codes also accompany each product which on scanning by any smartphone takes the user directly to the product datasheet, thereby providing even more detailed information. The new brochure is available in all Resapol branches as well as on the downloads section of the Resapol website.

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TRACING THE GOLDEN THREAD IN BALCONY DESIGN

Nick Haughton of Sapphire Balconies discusses how the 'golden thread' concept can improve data in projects to benefit the design and delivery of balconies for multi-occupancy apartment buildings.

The 'golden thread' is a term used for an up-to-date live record of data used on a building project. This concept was clearly identified in the 2018 Hackitt Report following the Grenfell Tower fire as being particularly important in residential construction. But what does that mean?

The Hackitt Report observed that record keeping is a serious issue in this industry sector and highlighted its slow adoption of traceability and quality assurance techniques which are in widespread use elsewhere and the technology is readily available. The Report identified a clear need within construction to adopt new technologies and develop a culture of transparency and responsibility.

A gulf can occur between the design and construction on a building project, and the operations managers who take over the end-product when information isn't properly defined at the outset because designers, contractors and manufacturers don't have a specific brief as to what's required of them.

RECORD-KEEPING

Taking residential balconies as an example, record-keeping and visibility of information is key, from preparation and brief, concept design, special configuration, technical design, manufacturing and construction, handover and use. Traceability and control over each element are vitally important to ensure safety is maintained and high quality balconies are achieved.

In the past, paper records have typically been used throughout construction, but issues such as human error, missing paperwork and bad weather on site can impact the effectiveness of the records.

Traceability is about identifying the critical aspects of each product and who has worked on it and at what stage. If there are any issues, they can be identified and traced precisely at every single stage. This prevents mass recall of products



with its inherent waste of materials, time and money.

Systems like Passport, an app we have developed, bring accountability with each step, capturing photos, names and a running record all aimed at delivering quality and enhancing competency at each step.

DIGITAL TRACEABILITY

Having all records digitised and stored in an accessible format is the way forward to achieve traceability and accountability at all stages of balcony design and production. Before digital processes, records were written and filed, never to be looked at again. In an impermanent workforce – as is common in construction – information can get lost or is not adequately completed, leading to problems such as low-quality products and mass recalls, or worse still, 'as built' information not being 'as-built,' and the true nature being masked until problems arise.

Furthermore, if records are used only for compliance purposes, (eg., regulation 38) the industry misses out on the value of such records. Having everything recorded digitally shows the progress through the job, which means balcony manufacturers can learn from the information as real time data enables any necessary corrections to be made early on. And because the information is in a computer-readable form, it can automatically be tested to make sure what was requested is being provided.

We recently introduced a physical check and Go: No, Go signoff where photos are inspected by a second person within the 'Passport' process.

BIM AND THE GOLDEN THREAD

The golden thread concept can be applied to most products including balcony design in conjunction with BIM to provide quality control with digital traceability. Key information is fed into BIM right at the start of balcony design in the form of a specification tool. Standard data templates for requirements, products used, solutions and procedures can be created and stored for everyone to access. This provides the base of information that



feeds into the applications being used during balcony production.

If kept up to date, BIM information lives through the life of the production process and becomes the measure against everything to be tracked. When this is done in digital form, it can be fed into the different balcony design, manufacturing and assembly applications. This creates a library of information that all fits together. It also extends to scheduling and delivery of information at the handover stage and into the final part of the golden thread in asset management applications. It means that, whether BIM is part of the construction of balcony components or the balcony design and construction as a whole, the process can cut waste in both time and resources.

STANDARDISATION OF COMPONENTS

Standardisation of components and offsite construction of residential balconies can dovetail neatly into the golden thread and BIM to deliver high quality, safe and more cost effective balconies. In combination they can bring building costs under tighter control by minimising variations in design, materials and finishes. This does not need to curtail the freedom of architectural expression: it simply requires best practice at all stages. For components – such as balconies that are built offsite – this already leads to more efficiency on production lines and, in turn, to superior product quality. This is complemented by streamlined delivery, handling and installation of completed units.

COMMUNICATION

To ensure that the golden thread is adhered to, each stakeholder in a project needs to define the information they need, how to ask for it and communicate the consequences if they don't receive it. With the knowledge gained from precise record-keeping, any issues can be dealt with at any stage of the process.

The use of technology can also significantly increase quality as snags and errors are caught early in the design and strategy stage of any project or product.

If all work is meticulously tracked via digital methods, there is very little potential for failure, even when errors in construction happen.

Nick Haughton is head of marketing at Sapphire Balconies



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BALCONY

DRAINAGE

Senior brings light to Lampwick Quay

Senior Architectural Systems has completed its fourth project for client Manchester Life after supplying the full aluminium fenestration package for the developer's new Lampwick Quay apartment scheme.

Located in Manchester's thriving new community in Ancoats, the new development comprises 213 apartments across three blocks of five, six and ten-storeys, with ground floor retail units and communal facilities including a gym and residents club room. A mix of Senior's aluminium windows, commercial doors and curtain wall solutions have been used extensively throughout the development and installed by supply chain partner Aire Valley Architectural Aluminium for main contractor John Sisk & Son Ltd.

To help reduce heat loss and energy costs, Senior's low U value and Part L compliant PURe®



aluminium casement windows have been installed to each of the apartments to create a comfortable living space. The stylish window system also provides the perfect frame for the development's views of Manchester's New Islington Marina.

Energy-efficiency has also been addressed in the communal, retail and ground floor areas through the use of Senior's thermally-enhanced SF52 aluminium curtain wall system which maximises the controlled use of use of natural light.

To meet the scheme's stringent safety and security requirements, Senior's robust SPW501 aluminium commercial doors were installed to the main entrance and exit points. The SPW501 commercial door system is ideally suited to high pedestrian use and meets the requirements of Secured By Design. Key elements of the fenestration package have also been designed to work as part of the scheme's overall passive fire protection strategy, with the use of Senior's SPW600 automatic opening ventilation (AOV) aluminium windows in the communal areas and stairwells. Although visually similar to Senior's popular SPW600 system, these AOV windows are fitted with a smart actuator which allows for quick and automatic ventilation in the event of a fire, helping to remove smoke from the air.

The development's low pitch sawtooth roof design pays homage the area's industrial heritage, with the slim aluminium frames of the fenestration package further complementing



the main facade of zinc cladding, brick and coloured panels. Initially designed by CallisonRTKL, the Lampwick Quay development was delivered by jmarchitects.

No stranger to the residential and private rental scheme market, Senior was also chosen by Manchester Life to supply aluminium fenestration solutions for other developments in Ancoats, including Cotton Field Wharf, which was the first phase to be completed, Weavers Quay and New Little Mill.

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As part of its Residence Collection, **Tradelink Window Solutions'** R7s range is a proven high-performance PVC-U door and window option which suits a wide variety of property types from traditional 1930s and Art Deco style houses to new-build developments, including city apartments. The collection is the

perfect choice to costly aluminium or steel alternatives. Furthermore, the design of the seven chamber profiles, advanced weathering details and high specification glazing units also ensure the range is already compliant with the changes to Part L of the Building Regulations coming into force next year. The seamless welded corners help create a very strong and rigid assembly, presenting a totally flush face and relatively slim sightlines.

tradelinkdirect.com

Garador says goodbye to plastic



Leading garage door manufacturer, **Garador**, is taking steps to make its products more environmentally friendly. Garador's traditional wrapping system, involving large areas of plastic around each garage door, will be removed from Garador's full range of up and over garage doors, greatly reducing the

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amount of plastic waste involved in each delivery. Managing director of Garador, Neil Discombe, said: "We are delighted we have now found a way to protect our garage doors during delivery without the need for these large areas of plastic." For specific items and requirements, plastic protection can still be requested as an optional extra.

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An exclusive collection of high-end apartments in the heart of London, Chimes offers luxurious homes coupled with a wealth of amenities within a dynamic local community. Providing automatic access to the main entrance of this exclusive development, **TORMAX** installed a double set of swing doors that are automated by iMotion 1401 operators that are recessed into the floorspace. Delivering incomparable reliability in the marketplace today, the in-house designed TORMAX iMotion 1401 door operator is entirely maintenance-free thanks to the unique design of the powerful synchronous motor. Further ensuring ongoing performance, the drive is certified protective class IP67, making it resistant to water, humidity and soiling. TORMAX developed the iMotion 1401 door operator to allow discrete automation of swing doors for locations where a minimalist finish is required or in historic locations where maintaining the original aesthetics is essential. The iMotion control unit incorporates the latest hi-tech sensors, delivering obstacle recognition on both opening and closing. Simplifying operation for Chimes' staff, the opening movement and the door held-open time can be saved as two separate, pre-defined settings.

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Smartroof celebrates 20 years in business



S martroof is celebrating its 20th anniversary this year, a key milestone for a company that has revolutionised room-in-roof construction in the housing sector with its innovative panel system that can be installed in hours, not days. An important celebration, the 20th anniversary is proof of the company's excellence and longstanding reputation across the housebuilding industry.

From its humble beginnings in 2002, Smartroof has grown considerably over the past 20 years from when it secured its first customer, housebuilder Barratt Homes. The company has gone from strength to strength and is now supplying over 300 roofs a month, aided in part by the recent £1.5 million investment in its Swadlincote production facility to meet the growing demand for modular roof system.

Throughout this journey, Smartroof has worked hard to forge a reputation for innovation which is at the heart of everything it creates. Research and development ensures its products are well-engineered, wellunderstood and ahead of the game when it comes to sustainability.

The Keystone Group acquired Smartroof in 2012, recognising that the revolutionary Smartroof system complemented its brands and addressed many of the challenges facing housebuilders today; health and safety, speed of construction, skills shortage, cost certainty and product quality.

CUSTOMER FIRST

The company has always strived to listen to its

customer needs and their challenges on site. With that in mind it is always value engineering the system to meet requirements and to further increase their speed and build on site. Removing the need to install more panels than required, this leads to less lifts on site which has improved health and safety and speed of installation even further.

Commenting Sean Og Coyle, Commercial Director Keystone Group said: "At the Keystone group we really believe Smartroof has revolutionised the room-in-roof sector. Being able to arrive on site with installers, a lorry with roof cassettes, spandrel panels, GRP dormers, roof windows, soffit and fascia, and then installing two plots per day provides our customers and builders with the important consistency of build programme and reliability. The system also improves health and safety, speed of construction, consistency of cost, which at the end of the day provides the builder with peace of mind that their product will be installed as required."

A complete roof solution, Smartroof is designed to offer housebuilders and developers a solution to maximising sellable space by creating rooms in roofs. Comprising a series of factory produced panels incorporating insulation, dormers, spandrels, roof windows, it is delivered to site and craned into place. Once in place, the roofs simply requires tiling. The system has many benefits – less waste, better control of quality, safer to install – and meets the industry's demand for solutions that allow us to build better quality homes, more efficiently. Along with its proven room-in-roof solution, Smartroof's longstanding success is also as a result of the support it receives from its customers and suppliers who rely on its products. Furthermore, Smartroof has the measures in place with its operations team, site teams, and contract managers who go the extra mile to ensure customers get that exceptional level of communication from their first enquiry right through to installation and post-handover support.

With a pipeline of projects in the mix for 2022 and beyond, Smartroof has clear ambition and an exciting outlook for the future. Thanks to the unwavering support of its staff, customers and suppliers, Smartroof looks forward to the next 20 years!

Visit our website: smartroof.co.uk/20-years-inthe-making or contact info@smartroof.co.uk



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BRINGING GLASS BACK INTO BALCONIES

Andy Lake of Pyroguard explores how glass can be used safely in balcony applications, as well as the various factors for housebuilders and developers to consider to ensure the right solution is specified.

Tt's no secret that housebuilders and developers are being faced with a competitive housing market, with discerning homebuyers wanting more for their money.

As our towns and cities become increasingly crowded, high-rise apartment buildings are becoming a common sight, enabling developers to build upwards rather than outwards. A key feature of these luxurious, contemporary developments can be balconies, with glass an ideal building material for their construction. Not only do glass balconies help to bring more natural light into the individual apartments and offer a striking exterior feature, they also provide residents with access to their own private outdoor space – something that is at a premium.

However, following the Grenfell disaster of 2017 and the subsequent amendment of Part B of the Building Regulations, a ban was placed on the use of laminated glass on high-rise residential balconies and terraces over 18 metres tall. As such, architects and developers have since had to look to other materials for the construction of their balconies, such as steel. However, while these alternatives did comply with the new regulations, they did not always offer as much aesthetic value.

Now, thanks to developments in the market, glass can be re-established as a design solution and brought back into these applications. Of course, there are numerous factors for housebuilders and developers to first consider to ensure that it is done safely.

Previously, the reason for the ban on laminated safety glass was due to the interlayer between the individual glass counterpanes, which formed its construction. This interlayer, commonly made from PVB, could melt in extreme heat and form flammable liquid droplets, with the risk of these droplets then falling to the balcony and floor below and igniting other material, causing the blaze to



spread even further.

By looking for safety glass that has Reaction to Fire classification A1 or A2, housebuilders and developers can be confident that the glass and interlayer will not combust in the unfortunate event of a fire.

In addition to fire safety, any glass installed has to offer impact resistance, in accordance with BS EN 12600. Given the high-rise residential living setting, ensuring residents' safety is imperative. The glass is of course first and foremost a safety product, before any architectural or aesthetic value, and therefore has to meet the relevant line load requirements. For example, if someone leaned on the glass or even fell into the balcony, it is critical that the glass will hold and not shatter.

Another consideration when specifying glass within balconies is its UV stability. Considering its position on the exterior of a high-rise building, building materials in these applications will be exposed to all



weather conditions, from UV sunlight and heat to rain and wind.

Indeed, perhaps one of the most common issues experienced throughout the fenestration industry is weathering. When it comes to safety glass, the gel layers in some glass can react and be affected by long-term exposure to UV light or heat, causing the glass to yellow or appear hazy. With glass often being selected for its aesthetic and architectural value, it's important to ensure that this value is protected and won't deteriorate over time.

According to the regulations, safety glass products should be tested to the relevant industry standards for weathering: ISO 12543-4:2011. A means of accelerated testing, glass samples are placed into chambers within a controlled

GLASS BALCONIES OFFER A STRIKING EXTERIOR FEATURE, AND ALSO PROVIDE RESIDENTS WITH ACCESS TO THEIR OWN PRIVATE OUTDOOR SPACE

laboratory environment and subjected to varying degrees of heat, humidity and UV light. However, while these tests will tell you if the products pass or fail in terms of weathering, it does not always tell the full story. To more accurately predict how safety glass will perform in the real-world, housebuilders and developers should try to partner with suppliers who subject their products to real world weathering testing.

What's more, some safety glass products can be manufactured with a solar control or UV-stable coating within the system, helping to reflect the UV light away from the glass.

Andy Lake is sales director UK & Ireland at Pyroguard



FramePro® W1 chosen for Passivhaus Plus housing project in Cardiff

The FramePro W1 air barrier system from the **A. Proctor Group** has been chosen for a new modular Passivhaus Plus housing project in Cardiff. This innovative project will provide essential housing for Cardiff's homeless population. It is designed by Beattie Passive using its award-winning, patented design and build system, which the company says is the UK's first certified Passivhaus Complete Build System. The FramePro W1 system was chosen as an external air barrier. The system comprises FramePro W1, a low-resistance vapour permeable air barrier for walls, plus Wraptite[®] Tape. Ron Beattie, Managing Director at Beattie Passive, explains: "FramePro W1 is an excellent barrier system that provides complete protection from "windwashing" and the effects of wind penetration and moisture management in buildings. In addition, the system is easy to use and apply, easy to joint, and won't tear." Another benefit of the FramePro W1 system is that applying it externally simplifies the process, maintaining the building's integrity, as there are fewer building services and structural penetrations to be sealed. By reducing the likelihood of potential failures to meet designed airtightness levels, the FramePro W1 System helps ensure "as-designed" performance, narrowing the performance gap between as-designed and actual energy performance.

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Marley's future-proofed roof system scoops prestigious award

Marley's full roof system has won the Best External Product award in the highly competitive 2022 Housebuilder Product Awards. The expert panel of industry judges recognised how Marley's complete roof system including integrated solar PV and an innovative fire safety solution – Roof Defence, could help housebuilders tackle prominent issues round future sustainability and end user safety, and ultimately, provide future-proofed roofs. Marley SolarTile[®], together with the new and innovative Roof Defence product, can both be specified as component solutions within a fully integrated roof system and help play a significant role in enabling housebuilders to satisfy new carbon reduction responsibilities under Part L of the Building Regulations, as well as enhance protection against the risk of fire spread between roof spaces. Stuart Nicholson, roof systems director at Marley, said: "We are committed to working with housebuilders so they can specify roofing solutions that meet the needs of their customers and the regulatory landscape they're operating in. That's why we're delighted that the value of future-proofed roofs provided by the Marley full roof system have been recognised in this way. "Marley's single supply offering ensures the housebuilding sector can access a fully integrated roofing solution that has sustainability, safety, and performance at its heart." 01283 722588 www.marley.co.uk/roofsystem



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DRAINAGE AT THE BUILDING THRESHOLD

Effective drainage must be 'front of mind' for new builds seeking to achieve the increasingly popular blending of indoor and outdoor environments. Rob Butcher of ACO Water Management discusses the key considerations.

The integration of outdoor and indoor spaces is a crucial element for any building, and this couldn't be more applicable to the current trends in home design. A growing number of homeowners embrace the idea of having a step-free level walkthrough from their indoor space onto the patio. This continuity between indoor and outdoor environments encapsulates the 'bring the outdoors in' design movement.

Given the desire for aestheticallypleasing houses, more emphasis is required on threshold drainage to avoid unwanted – and often dangerous – water ponding. When considering threshold drainage, there are a number of different measures to navigate the water-sensitive divide between indoor and outdoor spaces. From gradients to channels, here are three key tips for housebuilders and developers.

DPC

Before approaching threshold drainage, the damp-proof course (DPC) is a construction element that needs to be kept in mind. Integral to protecting the property from structural damage, it must be positioned correctly for effective water management.

As outlined in Approved Document C of the Building Regulations, the DPC needs to be positioned no lower than 150 mm above the threshold when building a level patio to internal floor. This is to prevent the instance where rain hits the ground and splashes back up over the DPC. If it is placed too low or the ground is being built up too high, damp can infiltrate the dwelling as rainwater breaches the DPC.

In projects where the patio is lower than the internal floor, the DPC should be 150 mm above the floor level. Following this practice will futureproof the building in case a homeowner wishes to retrofit a level threshold later down the line.

A common misconception is that a drainage channel can be installed directly against the DPC to prevent this problem arising. As the grating would be at the



same level, rainwater will continue to splash and permeate the brickwork above – proving to be a counterproductive approach. Furthermore, such a measure has the potential to make matters worse, as an environment is created between the wall and the channel for vegetation to grow. Moss may start to develop along the wall which could eventually breach the DPC and leave the brickwork in an increasingly vulnerable condition.

It is clear that being reactive can in fact cause further issues, which is why it is vital that housebuilders adopt a proactive stance here. While legislation offers a guideline, it is recommended practice for developers to set the DPC higher than the minimum 150 mm above-ground requirements for level thresholds. This is also applicable to properties where the homeowner is likely to create a level threshold as part of future renovations. Implementing an elevated DPC provides an added buffer that can decrease the risk of breaches and rising dampness.

GRADIENTS

The seamless integration seen in open-plan design requires level access between indoor and outdoor spaces, which allows water to pool at the threshold and surrounding area. It's for this reason that measures must be put in place to transport surface runoff – namely a gradient to ensure water travels away from the property entrance.

Developers should be aware of the requirement for a patio or paved area to slope away from the property, as stated in Part H of the Building Regulations. At the same time, Document Part M should be kept in mind as regulations prohibit a slope steeper than one in 12 metres when forming a ramp for level building access. When it comes to measurements, the necessary ratio of the slope itself will depend on the surfacing and its roughness. Consulting drainage experts in this matter can help to determine the ideal gradient for effective surface water drainage.

DRAINAGE CHANNELS

It must be understood that sloping is the bare minimum and will need to be supported by other components to form a competent threshold drainage system. This is where threshold interceptor drains also play a crucial role in home design. Such a solution prevents accidental



flooding of the external area from spreading into the dwelling without compromising the aesthetic.

This is especially pertinent in cases where level threshold access is to be implemented. Bi-fold doors are a common staple in the entrance design, however, the running track at the bottom leaves a slot for rainwater to collect when the doors are closed. Therefore, a correctlyspecified channel should be installed at the front of the running track to percolate the water out to a suitable outlet.

On the subject of disposal, this element cannot be forgotten when installing

drainage channels. 'Phantom drainage' is a prevalent example of poor practice across threshold drainage, whereby the linear channels are connected to nothing.

Without a suitable outlet there is nowhere for the water to drain and it will continue to collect until the channel overflows. This is why housebuilders must always determine where the collected surface water will be disposed of when implementing threshold channel drains.

FINAL THOUGHTS

The parameters discussed are a vital part of home design in ensuring building

DEVELOPERS SHOULD BE AWARE OF THE REQUIREMENT FOR A PATIO OR PAVED AREA TO SLOPE AWAY FROM THE PROPERTY, AS STATED IN PART H OF THE BUILDING REGULATIONS

thresholds are both attractive and functional parts of the property. When placing these considerations front of mind, it is equally important that housebuilders consult drainage experts to ensure the right solutions can be put in place. To this end, housebuilders and developers will be better equipped to implement effective drainage systems across their projects.

Rob Butcher is design services manager at ACO Water Management

The water ma

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Wavin gets to the root of the problem with new technology

Leading plumbing and drainage solutions provider, **Wavin**, is adding its innovative new RootSeal Technology across the OsmaDrain range. The natural additive used in RootSeal Technology actively prevents root ingress in below ground drainage systems, helping minimise the chance of repairs being needed on residential and commercial properties. Root ingress can be a serious problem for drainage systems, with the joints being the most likely point of entry. Blockages caused by root ingress can lead to sewage leakage, pipe breakages and costly repair work. RootSeal mitigates this by using an independently tested natural additive which is proven to gently and safely discourage tree and shrub roots from growing near joint seals. The problems around root ingress may worsen over the coming years due to climate change. With drier summers, tree and shrub roots become more aggressive, making them search further for water, increasing the likelihood of them coming into contact with drainage systems. With more greenery in urban areas being vital to combatting the effects of global warming, Wavin's incorporation of RootSeal Technology into the OsmaDrain range ensures developers can build healthier, more sustainable cities. RootSeal Technology is now standard across the entire OsmaDrain range at no extra cost.

info@wavin.co.uk www.wavin.com/en-gb/osmadrain-rootseal





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Viega receives seal of approval from Wates Group



Viega has been awarded Wates Approved Innovation Partner status for its Megapress press connection technology, thanks to the numerous performance benefits it offers – and is the only piping manufacturer to have achieved this prestigious accolade. The first initiative of its kind, the Wates Innovation Network (WIN) portal is an intelligent and

interactive marketplace for advanced technologies, created by the Wates Group to help businesses 'build back better'. As an Approved Innovation Partner, Viega will feature on the WIN portal alongside 41 other suppliers approved by a screening panel including 40 environmental experts.

sales@viega.co.uk www.viega.co.uk

Updated Part F CPD from Titon now available



Titon has revised its popular 'Part F 2010 Domestic Buildings Compliance' CPD presentation to help gain a deeper understanding of the new requirements. With the updated edition of Part F released in December 2021 for implementation in June 2022, there have been many important changes which are clearly demonstrated within the updated CPD. Titon's aim is

to provide an explanation of the requirements of the Part F 2022 update regarding ventilation, and the three systems examples that are used, and to emphasise the need to ensure that the installed performance meets the designer's expectations in order to achieve full compliance.

www.titon.com/uk/contact

cpduk.co.uk/courses/titon-part-f-2022-domestic-buildings-compliance



HR200 BP unit installed in 45 properties



VORTICE has supplied heat recovery units for 45 new affordable homes in the Heckington and Sleaford area. The design specification for the homes meant that the unit needed to be installed under the stairs, so, due to its compact dimensions, the Vort HR200 BP unit was an ideal choice. The HR200 BP is designed to ventilate constantly and this ensures the recovery of up to 93%

of the heat which would have otherwise been lost from the property. It offers 100% filtration even in summer bypass mode, ensuring good Indoor Air Quality (IAQ) for the tenants all year round. The unit boasts high energy efficiency levels, reducing the residents' energy bills, as well as producing low sound levels and providing easy access to filters for maintenance.

sales@vortice.ltd.uk www.vortice.ltd.uk

Introducing the Go Eco Excel Stoves Range



Introducing The Go Eco Excel range, from Charlton & Jenrick, featuring two different door styles; modern and traditional. The Excel Stove is the perfect complement for any home modern or traditional. Minimalist in design but bold in statement. These stoves can be fitted in an inglenook, a large fireplace or freestanding.

These stoves are amongst the very best value for money appliances that carry over Charlton & Jenrick's own high-end technical features at an affordable price point. Designed and engineered to be extremely efficient and environmentally friendly. To realise the full potential and low emission from their stoves they only recommend using top quality fuel.

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The world is facing a climate crisis, yet it remains hesitant about what to do. Another year of dramatic climate events and record-breaking temperatures helped yield an unprecedented societal will to act. There has never before been a greater consensus that humanity is at risk from a changing climate. There remain, however, discrepancies in the sense of urgency that needs to be shared by everyone, if we are to protect the planet we have. This includes the consumer and individual households as much as it does multinational businesses and governments, but crucially also builders, engineers and developers – all of whom have the capacity to design and implement solutions at speed.

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Life Is On



146 new product lines in brochure



Altecnic, a leading supplier of hydronic solutions and part of the Caleffi Group, has unveiled its latest product brochure debuting 146 new product ranges, as well as a shift in focus to sustainable heating through the introduction of a heat pump focussed section. Altecnic offers more than 5,000 domestic and commercial products and 146 of these are featured for the first time in the 2022/23 brochure, which can be downloaded from the

Altecnic website. Gary Perry, Managing Director at Altecnic, commented: "The 2022/23 brochure continues to showcase Altecnic quality, innovation, and compliance with all products, supported by our parent company Caleffi and their unmatched understanding of the industry."

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bright LED Loft Bulbs. For more information on their market leading loft storage solutions, along with stockists and prices, visit the Loft Leg website.

01282 861001 www.loftleg.com

MEV range now available in recycled plastic



Vent-Axia has launched its award-winning Lo-Carbon™ Multivent mechanical extract ventilation (MEV) range in recycled plastic, making sustainable attainable for housebuilders. This move to manufacturing the MEV range from recycled plastic, forms part of the company's commitment to becoming increasingly sustainable,

including using recycled plastic for an ever-widening number of products. Designed to provide a simple and effective solution to help housebuilders meet the Future Homes Standard the award-winning Multivent MEV range provides the ideal solution for new build residential projects, helping housebuilders meet DER requirements through market-leading energy efficiency and improving indoor air quality (IAQ) for homeowners.

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2 CONCEPT













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F. Ball's system LVT range delivers grand design



Products from **F. Ball and Co. Ltd**.'s System LVT range, including the company's fast-track, fibrereinforced transitional adhesive, Styccobond F58 PLUS, have been used to install luxury vinyl tiles in an ambitious, modern self-build property in rural Cambridgeshire. The contractors then used

Styccobond F58 PLUS and F. Ball's Styccobond F49 Hybrid PS temperature tolerant, moisture resistant, pressure sensitive adhesive to install wood-effect LVTs over the 372m² area. Styccobond F49 was used where floor-to-ceiling windows were likely to cause temperatures to rise significantly as a result of solar gain. The adhesive will hold floorcoverings firmly in place when subject to extreme temperatures and temperature changes.

01583 361 633 www.f-ball.co.uk

Setcrete LVT subfloor preparation system



Setcrete has created a subfloor preparation system for luxury vinyl tile (LVT) installations to optimise both the aesthetics and longevity of the flooring. The system comprises Setcrete High Performance levelling compound, Setcrete Acrylic Primer and Setcrete Rapid Set DPM. The huge increase in popularity of luxury vinyl

tiles is a result of the plethora of styles and designs that are now available – often mimicking other materials such as stone and timber – while offering long-term durability and practicality. Because LVT flooring is susceptible to subfloor imperfections and undulations showing through to the final finish, it is essential to use a high quality levelling compound to create a smooth and level base onto which vinyl tiles and planks can be laid.

01538 361 633 www.setcrete.co.uk



Show a little treespect with IVC Commercial laminate flooring

Dhara, Nesta, Fika and Tuffa are the brand-new laminate floor ranges from **IVC Commercial**. With true to nature wood designs and a sustainable recovered wood construction, these flooring solutions are made for the demands of housing and commercial interior projects. Featuring emboss in register texture that follows the wood grain pattern and with an extra matt finish for lifelike wood effects, the IVC Commercial laminate flooring collection brings the beauty of wood with the performance of floors made for commercial use. Highly scratch and wear resistant, long-lasting and using 100% recovered wood, it embraces nature in more ways than one. 100% of all the wood used in IVC Commercial laminate flooring is recovered from responsible PEFC certified sources or as a by-product of other industries (e.g. saw mill). That means that not a single tree is felled to make IVC Commercial laminate floors. The recovered wood is processed into a high-performance HDF core, adding a wear finish that's made to withstand project use and reduce maintenance. Using alternative transportation wherever possible, such as rail and inland waterways, also means that Dhara, Nesta, Fika and Tuffa arrive with less carbon being emitted, in FSC certified packaging that's 100% recyclable.

01332 851 500 www.ivc-commercial.com



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COMPACT & FUNCTIONAL

With space becoming more confined in developments, designing rooms that still include all the right features is challenging. Joanne Dobbs from Lecico Bathrooms offers her advice when creating bathrooms for compact areas.

The reduction in floorspace in UK homes over the past 50 years presents a challenge to achieving attractive design in new housing bathrooms and refurbishments alike. As a result, a range of bathroom products and interior design ideas have evolved to meet the challenge. When designing a new bathroom with limited space, the following products and design ideas can be used to give the perception of a larger space and achieve a luxury feel.

OPEN SHOWER SPACES

Increasingly, baths are being substituted entirely for showers. Installing a wet room style shower using a single glass panel is a great way to adopt a minimalistic design that opens the full floor space. Low profile shower trays offer a simpler and more cost-effective solution to achieve the wet room look without having the installation challenge of wet room drainage and waterproofing walls and floors.

If a bath is required, there are a range of baths available in shorter lengths. For example, a 1500 mm bath saves floor space and the use of a shower over the bath offers a combined solution so bathing and showering are possible.

WALL HUNG OR COMPACT SANITARYWARE

Choosing compact sanitaryware also helps to save floor space. Wall hung WCs installed with concealed cisterns are an increasingly popular design in modern, minimalist bathroom design. Wall hung WCs 'float,' leaving open floor space beneath the WC, which in turn makes the bathroom feel larger. The same can be achieved with washbasins using semi pedestals rather than floor standing full pedestal washbasins.

Where floor space is really limited, corner WCs and corner washbasins can be used to minimise redundant floor space. If corner washbasins or WCs are not desirable, 'short projection solutions' also help to save space.



FURNITURE UNITS, BASINS, AND TAPS Bottles and tubes scattered on

countertops, windowsills and shelves are guaranteed to distract from even the most aesthetically pleasing bathroom design. Closed storage in the form of wall hung bathroom furniture with a washbasin sitting on the countertop gives the option to keep bathroom items tucked away. Selected well-designed items can then be displayed to accentuate the overall design. Wall mounted taps when used in

combination with freestanding washba-

sins on furniture also deliver a modern and highly stylised solution which also clears countertops.

MAKING A SPACE FEEL LARGER

Interior design techniques can also be deployed to make bathrooms seem brighter and more spacious. Minimalistic design, the optimum use of light and certain types of tiling all help to amplify light, brighten up the bathroom space and give an increased impression of depth.

Using light and bright colours helps to

WHERE FLOOR SPACE IS REALLY LIMITED, CORNER WCS AND CORNER WASHBASINS CAN BE USED TO MINIMISE REDUNDANT FLOOR SPACE





reflect natural light and the avoidance of strong dark colours helps to make the bathroom seem more spacious. Using high-gloss paint also helps to reflect light and amplify space.

Bathroom tiling using unbroken lines by installing the same tiles on your floor and shower walls gives bathroom spaces more depth. The effect is an unbroken surface that makes the entire room seem larger. For smaller bathroom walls, specifying ceramic tiles that are small also helps to maintain a spacious feel.

Large backlight mirrors also have the effect of opening a room and increasing the feeling of depth, providing additional reflective light. The reflection of light and pattern offer the same benefits as a window does to bring light into a space.

Joanne Dobbs is specification sales manager at Lecico Bathrooms



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Looking good for the summer! New look packaging for small powder products

To meet the demands of a changing market-place and provide leading solutions, BAL - market-leaders in full tiling solutions - are excited to announce the launch of its new look small powders. All powdered products 7.5kg and smaller are benefiting from a major investment into BAL's manufacturing facilities in Stoke-on-Trent. The new machinery is allowing BAL to move away from their current polybag packaging to new high-impact retail-friendly bags. New packaging designs will maintain the core look of current products for easy transition and instant product recognition. The most notable change is with BAL's Micromax2 range of anti-microbial wall and floor grouts - where the design and style have been improved providing a number of benefits for end-user and stockist including: Clearly colour identity including clear circular design element to show the actual grout colour in the bag; Cleaner front of bag design; Circular element highlighting BAL Micromax2 has the colour locked-in to the formulation - there is no need to mix the full bag - as the pigments are fully blended for improved consistency every application.

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INDUSTRY PARTNER

A spa-like indulgence for the home provided by Kaldewei Whirl systems

The generously sized Centro Duo Oval bath is fitted with the bespoke Whirl systems for spa-like wellness that can be installed in your own home. The Kaldewei Whirl systems is a combination of massaging jets by adding the Whirl systems to its steel enamel bathtubs, Kaldewei combines modern luxury with sustainability – "luxstainability".

There are four different massage systems to choose from Body & Soul, Soul, Full Body, and Body, all offering different intensities of massage.

The Body & Soul wellness system combines the elements of water and air for the perfect massage experience. Powerful jets of water loosen muscles, tendons, and joints, while



sparkling, preheated air bubbles stimulate the skin. On request, the side and floor nozzles can be selected separately and be adjusted in their intensity.

With the Soul air massage, the wellness system creates a bubbling air flow with preheated air bubbles, the air technology stimulates the nerve fibre ends of the skin to help relieve stress and tension wherever it may be held in the body.

The Full Body aqua massage is an intensive massage designed to loosen muscles and promote blood circulation. Micro nozzles specifically treat the back and feet, and the side jets can be aimed directly at specific parts of the body to work on stubborn muscle knots.

The Body massage uses lateral water massage jets that range from gentle to powerful. The side nozzles can be individually aligned to the body, and special micro nozzles are designed to treat the back and feet.

A sleek display panel made of white glass integrates seamlessly into the rim of the bathtub and ensures easy control of the Whirl systems. The Kaldewei Whirl systems offer simple automatic cleaning and a sensor-controlled blow-dry function for a clean and hygienic finish.

01480 498053 www.kaldewei.co.uk









Landmark Lewisham project using A1 Magply for fireproof pattress inserts

A significant new high-rise residential project in the London Borough of Lewisham is being built to provide high quality social housing, with the design of the structure prioritising the use of non-combustible materials: including the choice of A1 rated **Magply** boards for pattresses within the external walls. The development at Creekside in Deptford is being built by C Field Construction and IPE Developments to create a total of 56 one, two and three bedroom apartments, including three specially equipped units on the lower levels of one block for those with mobility issues. Within all of the high specification homes, pattress blocks cut from 18 mm sheets of Magply boards, manufactured by IPP Ltd, are being fitted to the reinforced concrete structure's infill of heavy gauge steel studs by sub-contractor, SCL Interiors. The pattresses are being positioned to support kitchen cupboards and bathroom units as well as radiators throughout the eight and 10 storey buildings. While this use of the well proven and widely specified Magply MOS boards has already been demonstrated on other multi-storey HMO projects across the Southeast and elsewhere, the main contractor and client's representatives rightly insisted on witnessing a demonstration of the product's suitability for the application.

01621 776252 www.magply.co.uk

Fibo expands collection with new designs



Waterproof wall panel manufacturer, **Fibo**, has added a selection of new, market-leading designs to its Urban, Signature and Scandinavian collections, providing its customers with even more contemporary choices. A new Straight Herringbone design is joining the popular Urban Collection; a

Vertical Plank design has been added to Fibo's Scandinavian Collection, and a new high gloss decor has been introduced to the Scandinavian and Signature ranges. All of the designs in Fibo's Scandinavian, Signature and Urban Collections come complete with a market-leading warranty of 25 years, providing customers with the peace of mind that their wall panels are watertight, robust and protected for well over two decades.

01494 771242 fibo.co.uk/collection

Hygienic, hidden waste disposal solutions



The hidden places in the home are, arguably, the most cluttered and tricky to keep clean; no one sees them anyway? **BLANCO UK** has put paid to this notion with the company's portfolio of innovative waste disposal solutions, part of the popular BLANCO UNIT concept. The UNIT has been designed for the busiest area of the kitchen

and is designed to help customers create feature-rich, creative kitchen hubs; and retailers with "upselling" opportunities. The system combines sinks, taps, in-cabinet waste and organisation systems into innovative and flexible solutions for modern kitchen life.

www.blanco.co.uk





THE CROWN FOR YOUR KITCHEN



Looking for the 'Crown in Your Kitchen?'

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- Visit our website www.reginox.co.uk
- Contact us via social media (Twitter, Facebook, Instagram and LinkedIn) @ReginoxUK
- Email us on sales@reginox.co.uk

Add style to the kitchen with Reginox



The stylish Ego sink from **Reginox** forms part of the company's range of high quality granite sinks. Featuring contemporary styling that blends curved corners with right angles to create a distinctive look, Ego is complemented beautifully by a designerprofile drainer and chrome waste. Its highly

competitive price point has ensured that the sink is a firm favourite among homeowners seeking a stylish and hard-wearing alternative to stainless steel. Ego is available in a choice of four colours – Black, White, Cream and Titanium – and is designed for insetting. It's also available in three sizes – 400 (small single), 475 (1.5 bowl) and 480 (large single).

01260 280033 www.reginox.co.uk

Setting the standard with sustainable packaging



Sika Fastfix All Weather jointing compound is now available with a new, more sustainable packaging design, which is manufactured in part using postconsumer recycled (PCR) plastic. It's one of the very first Sika products with the new PCR packaging – easily recognisable thanks to its distinctive dark grey top - to hit the shelves and is part of a mass

roll-out by the manufacturer which it anticipates will save around 400 tonnes of virgin plastic this year alone. The change to the packaging does not impact on the quality and performance users expect from Sika Fastfix, both in terms of storage and application. Sika FastFix All Weather self-setting jointing compound provides the ideal solution for perfect pointing.

0113 240 3456 www.everbuild.co.uk

Reginox introduces innovative sink extender



Sales of undermount sinks have seen continuous year-on-year growth over the last 10 years. However, increasingly consumers are recognising that while they like the minimalist design of the sink, they miss the functionality of a drainer. As a result, **Reginox UK** – one of the leading sinks, taps and accessories manufacturers is launching its first ever

freestanding stainless-steel drainer. Aspen, designed and manufactured by Reginox, would perfectly compliment any of its undermount stainless steel sinks. Newly launched as part of Reginox's 2022 collection, the Aspen is fully portable and fits neatly or flush with an undermount sink, preventing water or items directly contacting your worktop.

01260 280033 www.reginox.co.uk

Meadfleet appointed by Leicester City Council



Meadfleet are delighted to announce their appointment by Leicester City Council as open space management partner on Ashton Green, a multi-phase development delivering up to 3000 new homes. The local authority sought an experienced management company with in-house technical expertise, as well as a track record for quality maintenance, biodiversity enhancement, and community engagement. Meadfleet will provide a consistent and long-

term solution to the management of public areas becoming custodians of around 40 hectares of open space across the entire development.

01438 890780 www.meadfleet.co.uk



ISO-Chemie joins Offsite Alliance in strategic move to support sector

Leading foam sealant tapes for windows and doors specialist **ISO-Chemie** has joined the Offsite Alliance in a move that sees it strengthen its collaboration with building and construction partners and reinforce its expertise within the MMC sector. The UK market for offsite housing construction goes from strength to strength, continuing to grow over the last 12 months despite the impact of the pandemic, as confidence, capacity and quality in the sector continue to return. By joining the Offsite Alliance, ISO Chemie will provide technical input and support the growth and development of offsite technologies, product innovation and best practice. This comes at a time when the role of supply chain collaboration is increasing, driving the ongoing development of an offsite construction market increasingly benefitting from effective and high-performance air-tight and structural window sealing tape solutions at agreed prices. ISO-Chemie, one of Europe's main producers of impregnated foam sealants, specialises in the manufacturer of foam products from polyethylene (EPE), polypropylene (EPP) and polyurethane (PUR) using the latest production techniques. Pictured is ISO Chemie's Nick Thompson (left) and Andy Swift (right) with Gaynor Tennant of the Offsite Alliance.

01207 56 68 67 www.iso-chemie.eu/en-GB/home

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THE FUTURE IS MODULAR

Dave Lancaster from Uponor discusses the progress of offsite construction and the systems used in modular assemblies – and how MMC can accommodate the demands of the housing crisis without compromising on design.



hile there are many learnings that can be taken from the MMC-led construction of commercial retail, hospitals and prisons - all of which showcase MMC's scalability potential – attention must be directed to the fact that, overall, consumers want greater diversity when it comes to their homes. Therefore, while technology is developing quickly and MMC is generating buildings of a higher quality than ever before, manufacturers, architects and design professionals will play a vital role in ensuring that individuality is maintained and that clients are well informed on whether MMC is the right approach for a project.

Nonetheless, meeting the Government's target of building 300,000 new homes per year using traditional methods of construction alone would be an extremely tall order. So, with these ambitious targets coupled with continuous shortages impacting materials and labour, it doesn't come as much of a shock that arguments favouring offsite housing production are taking centre stage. But in order to make this a success, collaboration is key, and housebuilders, contractors, designers and the wider supply chain must all commit to working together in order to educate each other and drive the industry forward.

THE NEED FOR SPEED

Recent statistics highlight that almost 50,000 new homes were built in the first three months of 2021, the biggest increase seen in over 20 years. However, since then, the construction industry has been impacted by a number of challenges which have meant that some projects have been hit by delays and unanticipated costs.

Due to this, methods such as offsite manufacturing are increasing in popularity due to their ability to increase productivity and the speed at which homes, hospitals and schools are being built. In fact, in 2021, Savills predicted that the proportion of new housing developments built using MMC would need to increase from the current 6-10% to 20% of the market in the coming years in order to meet government targets.

GROUND BREAKING DESIGN

Despite the benefits MMC can offer, many within the industry are hesitant to switch to modular building. One reason for this is that, historically, factory-based assemblies have suffered from a bad reputation when it comes to aesthetics. However, due to technological advancements in recent years, modular building now actually serves as an opportunity to push the boundaries of innovation and high-quality design. Putting the wellbeing of residents first, the interiors of modular buildings are now designed to be spacious and to let in copious natural light, while also being constructed using high-quality materials, heating and plumbing systems.

Plus, many fail to acknowledge that the speed of delivery is not only great for the pocket, it is also great for design. By accelerating the delivery of new homes by more than double the rate of traditional methods, modular not only allows us to meet demands quicker, but it also gives architects the space to ensure that each and every building is thoroughly planned and aesthetically appealing while still meeting project timelines. This means that despite the concerns of many, MMC is far from compromising on design, it is actually leading the way.

SPACE OPTIMISATION

Multiple climate change studies indicate that indoor temperatures will exceed the comfort threshold of 26°C in the future, meaning that the amount of energy needed for cooling will go beyond the energy necessary for heating. To solve this problem, future-oriented temperature control in modular homes must be energy efficient, possess the ability for both heating and cooling, and fit into the limited space of many modular assemblies.

To heat or cool a module with limited space, radiant emitter systems can be used as they have the capability of being installed behind walls, above ceilings, and under the floor, allowing the space to be

LOOKING AT WORLDWIDE TRENDS, MMC COULD SOON MAKE A HUGE IMPACT ON THE UK HOUSING MARKET

maximised. Technological advancement in the sector has also led to the development of low-profile screeded radiant heating systems which can be installed at a total build height of only 15 mm, providing a good thermal mass while still providing the optimum space to allow design freedom.

Radiant heating systems can also be easily controlled in individual rooms, or pods, via a dedicated thermostat which provides the best thermal profile for a specific area of a modular build. This allows modular homes to be heated more efficiently, as energy is not wasted in rooms or zones that are not in use, in fact, it is estimated that these systems are between 20-25% more energy-efficient than convection heating.

Underfloor heating systems are also easier to use for cooling. Hydronic cooling systems pass water through the pipes which absorb the heat within a room cooling the environment and preventing overheating. The system's temperature controls prevent the build-up of heat during warmer periods by reducing the degree to which the building mass heats up. The result is that surfaces are kept cooler and the internal ambient air temperature remains more comfortable.

MMC – A WORLDWIDE TREND

In spite of the obvious advantages brought by modular housing, it is not yet widely utilised in the UK. However, Looking at worldwide trends, MMC could soon make a huge impact on the UK housing market.

Thanks to advancements in technology and design, methods such as modular building have already been adopted on mass scale across the global market with 150-180,000 modular homes constructed per annum in Japan, and around 45% of Swedish homes now being built using offsite manufacturing. So, with the benefits of MMC becoming increasingly apparent, it is clear that something is changing and it is only a matter of time before MMC rises to the forefront of UK housing innovation. 'Watch this pod.'

Dave Lancaster is senior category manager at Uponor

Flagship zero carbon home uses reflective membrane technology to deliver energy efficiency

A concept house for sustainable living developed by one of the UK's major housebuilders has been installed with reflective, insulating wall membranes from Glidevale Protect to deliver an airtight and energy efficient building envelope. Zed House, built by Barratt Developments PLC, is a unique zero carbon home built on The University of Salford's main campus and is a collaboration between the housebuilder, industry partners

Glidevale Protect's wall membranes were installed offsite to timber frame closed panels before being delivered and constructed on site.



and University of Salford academics.

Glidevale Protect supplied its reflective wall membranes Protect TF200 Thermo and Protect VC Foil Ultra as part of the build to deliver a low emissivity solution through the use of still airspaces, with the products providing strong aged thermal resistance to reduce energy consumption and heat loss, thereby helping to achieve a low overall U-value. The membranes were installed offsite to timber frame closed panels by specialist manufacturers and designers Oregon Timber Frame Ltd before being delivered and constructed on site.

Zed House is constructed using MMC to reduce build time by half and is packed with cutting edge technology to reduce carbon emissions and substantially surpass the Future Homes Standard, being the first home built by a major housebuilder to achieve this. Glidevale Protect is one of over 40 organisations involved in the project from across the housebuilding, sustainability and technology sectors. Continually monitored for energy performance, the Zed House will be lived in by University of Salford academics to better understand the customer experience of zero carbon living.

"The Zed House takes a fabric-first approach, supported by a range of smart and renewable technologies, to ensure high standards of energy efficiency in this zero carbon home,"



Zed House is a unique carbon zero home built on the main campus of The University of Salford.

said Oliver Novakovic, Group Technical and Innovation Director at Barratt Developments PLC. He added, "Glidevale Protect is an important partner on this project, who has provided high quality reflective membranes to enhance the wall's thermal performance, helping to reflect radiant heat and prevent energy loss from the timber-frame home."

For more information, please visit the website, email info@glidevaleprotect.com or give them a call.

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£92 million student accommodation project receives Advanced Protection



Brighton's Moulsecoomb Campus are now protected by a fault-tolerant network of MxPro 5 fire panels from global fire systems leader, Advanced.

The 13 networked MxPro 5 panels have been installed to protect the five student accommodation towers varying between eight and 18 storeys, which will provide more than 800 student bedrooms as well as ground-floor fitness facilities and amenities for the students' union.

Responsible for the fire system design, supply and commissioning were West Sussex-based Southern Fire Alarms (SFA) Ltd, who also installed the equipment alongside mechanical and electrical engineers, J&B Hopkins. The fire system is integrated with multiple third-party interfaces, including automatic opening vents (AOVs), sprinklers and access control.

Careful consideration was given to the complex cause and effect programming that needed to be applied across the site. Each building is configured with a six-minute investigation period, with sounders on the floor of origin initiated after a single device activation. A single subsequent device activation will escalate into full evacuation of the specific tower. A master key switch has also been introduced, to allow for full evacuation of all towers if required.

David Fell, Sales Director at SFA Ltd, said: "The integrity of the network was a key concern for our client. Many solutions appear to allow extensive cause and effect. However, in larger, networked sites, such as the five student accommodation buildings at Moulsecoomb Campus, some systems can fall short of attaining adequate performance levels over longer distances.

"Advanced's solutions were SFA's first choice for this large-scale installation. We rely on Advanced products to deliver powerful cause and effect that can be easily programmed and maintained, carrying all the required inputs and outputs for third-party systems. This, in turn, ensures the safety of the hundreds of students who will be living on site."

MxPro 5 is the fire industry's leading multiprotocol fire system solution, certified by FM Approvals to the EN 54 standard. It offers customers a choice of four detector protocols and a completely open installer network, backed up by free training and support. MxPro 5 panels can be used in single-loop, single-panel format, or easily configured into high-speed networks of up to 200 panels covering huge areas. Ease of installation and configuration, as well as a wide range of peripheral, make MxPro 5 suitable for almost any application.

Amanda Hope, UK Fire Business Development Manager at Advanced, said: "The sophisticated cause and effect programming that our MxPro 5 panels offer, brings a range of verification and investigation delay options into play that can significantly reduce false alarms. The project at Moulsecoomb Campus that SFA, our long standing and trusted installer partners, were involved in is yet another fantastic example of our solutions delivering great value, reliability and peace of mind."

Advanced, owned by FTSE 100 company Halma PLC, protects a wide range of prestigious and high-profile educational facilities across the globe – from Scotland's University of Edinburgh and Serbia's University of Belgrade to Myanmar's British International School.

Advanced is a world leader in the development and manufacture of fire protection solutions. Advanced's reputation for performance, quality and ease of use sees its products specified in locations around the world, from single-panel installations to large, multi-site networks. Advanced's products include complete fire detection systems, multiprotocol fire panels, extinguishing control, fire paging, false alarm management and reduction solutions as well as emergency lighting.

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Minimising fire risks and maximising performance

A lack of test evidence and performance data creates challenges for specifiers having to achieve precise safety and performance requirements. Steve Thompson Managing Director for light steel frame specialists, EOS Framing – discusses reducing the fire load of residential buildings.

A key advantage of light steel frame is fire performance. The amount of combustible material in a light steel framed building is much lower, therefore the risk of fire during construction and when occupied is vastly reduced. Steel is non-combustible and does not add to the fire load of a building – reducing the 'fuel for the fire' and limiting risk of damage and injury.

MAKING THE BUILDING PROCESS INHERENTLY SAFER

EOS as part of Etex are continually looking at ways to make the building process not only inherently safer but also to offer performance assurances to architects, housebuilders and specifiers to ensure they can provide sufficient levels of protection to occupants.

Fire protection for light steel framing is typically provided by the use of non-combustible boards for internal linings and fire protection systems such as those manufactured by our Etex Group partners – Promat and FSi. These passive fire protection specialists develop and manufacture a full range of built-in fire systems to safeguard both infrastructure and assets.

RIGOROUSLY TESTED AND CERTIFIED

Developed together with our Etex Group partners, Siniat, a leading expert in plasterboard and drylining systems, together with Promat and FSi – our loadbearing and non-loadbearing walling and flooring systems combine the technical and manufacturing expertise of the group to provide a comprehensive range of tested and certified solutions for light steel frame construction – all from one supplier.

With 60 – 120-minute fire resistance options, this approach mitigates risk because these integrated systems have been tested and assessed for compliance with the latest regulations and standards, to ensure robust and reliable performance. Design performance is achieved using combinations of boarding and insulation and only tested configurations are available for selection.

ELIMINATING UNCERTAINTY

We are committed to technical competence and as part of Etex, we have some of the best fire experts in the UK on our team. They work closely



Riverside Quarter is the first development in the UK to specify Pre-Assembled Frames (PAF) – designed, engineered and manufactured by EOS.



with certification bodies to jointly develop and design technical solutions.

By eliminating uncertainty through rigorous testing regimes, EOS deliver light steel framing systems with certified and predictable performance. Recently presented with Best External Product trophy at the Housebuilder Product Awards, Thrubuild[®] is an all-in-one non-combustible certified system exploiting the latest products, technical know-how and manufacturing excellence of the combined Etex team. Providing crucial safety, time and cost benefits, the Thrubuild[®] range has multiple loadbearing applications for low and medium rise developments and can be used for external or internal walls together with internal and separating floors.



In addition to the Thrubuild® loadbearing range, we have researched and developed Thruwall® – fully engineered custom-designed non-loadbearing infill systems manufactured offsite and supplied as a certified kit of parts that can be used with concrete and steel main frames.

Following the outstanding success of Thruwall® – EOS has taken factory prefabrication and preassembly to another level. Developed and rigorously tested, Pre-Assembled Frames (PAF) are an evolution of Thruwall® which is delivered to site as a unitised non-loadbearing infill system encapsulating light steel framing and external sheathing. Both Thruwall® and PAF systems are suitable for buildings with a height of more than 18 metres.

All components and products in the Thrubuild[®], Thruwall[®] and Pre-Assembled Frames system range have been rigorously tested together for fire, acoustic, weathering, airtightness, durability and mechanical performance. Fire resistance periods of 60, 90 and 120 minutes are predictably achievable.

30-YEAR WARRANTY

A fragmented supply chain will result in components being offered by a multitude of manufacturers, therefore warranties are complex, for very limited timescales or simply non-existent. This uncertainty also extends to the costs involved, the speed of build and the quality of the final outcome.



When walling and flooring systems are built with Etex Group components and materials, following a validation process — Etex award a 30-year warranty. Advanced light steel framing systems manufactured offsite in well managed factory environments not only mitigate risk but also enhance the speed and quality of the build process. Robust testing regimes backed by comprehensive warranties offer assurances to developers and no doubt help specifying teams sleep at night safe in the knowledge that they have safeguarded building owners and occupants.

01325 30 30 30 eosenquiries@etexgroup.com

SPECIFY WITH COMPLETE CONFIDENCE

Construction clients can now reduce risk and operate with more certainty and confidence at every stage of the construction journey by adopting the EOS light steel frame systems approach. Our ground-breaking range of loadbearing and non-loadbearing walling and flooring systems have been rigorously tested and certified for fire, acoustic, weathering, airtightness and mechanical performance.

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- 30-year Etex warranty
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- Suitable for buildings over 18 metres
- Delivers crucial programme savings of up to 30%

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To discover more about Thrubuild[®], Thruwall[®] and Pre-Assembled Frames go to the EOS information centre: www.eosframing.co.uk/information-centre











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TIMBER – THE NET ZERO HERO?

The road to net zero is now set, and pressure is mounting on the construction sector to deliver. For housebuilders, choosing to use sustainable materials such as timber should be an easy decision; Andrew Carpenter of the Structural Timber Association (STA) explains why.



In 2019, the Government joined a number of other nations in its pledge to combat the threat of climate change and achieve 'net zero' emissions status by 2050. Since then, progress has been made towards this goal – although there is still much to be done. In order for the UK to succeed, all sectors and industries must commit to reducing their carbon output in line with the climate agenda.

While this responsibility is shared across all sectors, the construction industry contributes as much as 40% of carbon emissions globally and is therefore under particular scrutiny to reduce its environmental impact. In a bid to combat the damage caused by the sector, last year the Government launched its Build Back Greener strategy document, which outlined its clear intentions to increase the use of sustainable materials within new developments, including housing.

The pressure to reduce the environ-

mental impact of new developments is yet another issue that faces housebuilders. Local authorities throughout the UK are attempting to rapidly increase their housing stock to meet the rising demand for new homes. Delivering such a large number of homes while meeting environmental targets is posing a difficult task for local authorities and housebuilders alike.

The UK's housing crisis is nothing new though; in 2015 the Government set out an aim to build 300,000 homes a year to combat the problems. However, this target has not been met, and recent estimates suggest that 345,000 new homes are now required to be built each year to overcome the backlog. Furthermore, the UK's housing issue has been worsened by the increasing need for affordable homes. In the 2017 UK Housing Review Briefing Paper, the issue of affordability was described as "neglected" for both private and social housing. Today, it is critical that a solution is identified and applied to produce affordable homes at pace while also meeting environmental targets. Structural timber systems could provide housebuilders with the answer.

Singled out within the Build Back Greener document, due to its exceptional sustainable credentials and its position as the only truly renewable building resource, timber is held to possess far more environmental advantages than other materials, such as steel and concrete. This is chiefly due to carbon sequestration. As a tree grows, it absorbs and stores carbon, which equates to 0.9 tonnes of carbon per square metre of timber. This means that throughout its lifecycle, timber has a carbon negative impact on the environment.

The Climate Change Committee (CCC) found that if 270,000 new houses were built each year using timber frame, it would increase the carbon sequestered in



UK homes to 3 million tonnes. Currently, the use of structural timber in new homes results in the sequestration of a little over 1 million tonnes of carbon per year. It is clear that increasing the use of structural timber systems within new housing developments would help the UK on its road to achieving net zero.

In addition to helping housebuilders meet their environmental targets, opting to use structural timber systems within new developments can help to alleviate other pressures. On average, using timber frame systems can reduce build time by eight weeks, when compared to traditional masonry methods.

This is largely because timber frame is manufactured offsite, and delivered as prefabricated panels that can be erected quickly. Furthermore, producing timber frame systems offsite improves reliability. Firstly, as they are produced in controlled factory environments, quality control is assured, resulting in fewer errors during assembly. Secondly, the fabrication of timber frame systems in a factory is not weather dependent, meaning build programmes become far more predictable.

Understanding both the environmental and structural benefits that timber presents, the question is why are more housebuilders not taking advantage of it now? Ultimately, the answer to this relates to culture. In Scotland for example, 92% of new build homes use timber frame systems, due to a long-established and very successful heritage using this method. Whereas in England, which relies heavily on masonry-based techniques, only 9% of new build homes use timber frame.

Hence, for timber to become used more widely, the first hurdle will be overcoming the culture within housebuilding that focuses on 'traditional methods' as well as the hesitancy around alternative methods. A big part of this will be educating and raising awareness about the sustainable benefits of timber, its structural capabilities, and demonstrating that it is a perfectly safe building material.

To support this, the STA continues to

AS A TREE GROWS, IT ABSORBS AND STORES CARBON, WHICH EQUATES TO 0.9 TONNES OF CARBON PER M² OF TIMBER

invest heavily in third party research to provide factual data and evidence regarding the use of timber as a structural building resource. In addition to this, STA Assure, the STA's quality standards accreditation scheme developed to recognise excellence within the structural timber sector, ensures that certified members meet or even exceed current legislation and regulatory requirements.

While traditional building methods are aiming to be carbon neutral by 2050, timber offers the opportunity to achieve net zero now. Housebuilders that are looking to contribute towards net zero – as well as combatting the housing crisis – should look no further than the environmental and structural benefits offered by timber.

Andrew Carpenter is the chief executive at the Structural Timber Association

Sustainable alternative for development



Marshalls Bricks & Masonry's Mayfair Vintage facing bricks have been used by housebuilder Backhouse on its Merlin Rise development to achieve a high-quality, reclaimed brick aesthetic that also aligns with the sustainability goals of the business. Unlike clay bricks, concrete products do not require ring and as a result, only a small amount of

additional energy is used in the manufacturing process. Concrete bricks are net absorbers of CO₂ due to their continuous carbonation over their lifetime. By selecting the Mayfair Vintage brick as an alternative to a traditional clay brick, Backhouse has saved 93 tonnes of carbon.

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SterlingOSB Zero sets the standard for OSB3



Manufactured to the highest standards by timber products specialist, **West Fraser**, SterlingOSB Zero is a precision-engineered OSB3 board which can now boast of being the greenest of its type in the UK. Produced in Scotland, West Fraser's load-bearing board has been extensively developed to be free from added formaldehyde. Suitable for structural use in multiple applications, SterlingOSB Zero OSB3's inherent strength

makes it ideal for decking or sarking as well as for boarding up vacant properties, as well as for hoardings.

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