



Round Table Review:
netMAGmedia's first
round table looks at
the Part L challenges



White paper:
Tracking readers'
opinions on offsite
construction



Comment:
Exploring the grey
area between green
and brownfield

HOUSEBUILDER & DEVELOPER

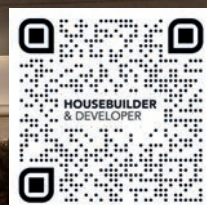
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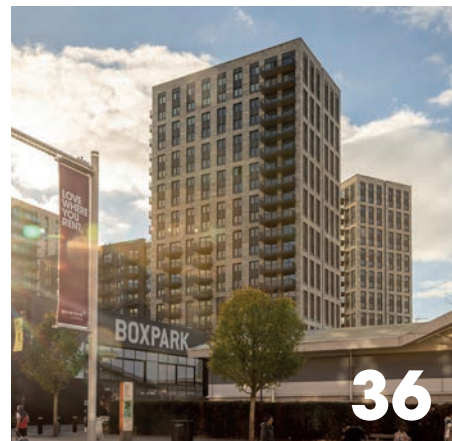
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James Parker

ON THE COVER

Powerful tools to overcome the challenges of the future.

White paper: 'Building the future' - a guide to the challenges of the future.

Comment: Building the future - a guide to the challenges of the future.

HOUSEBUILDER & DEVELOPER

AUGUST/SEPTEMBER 2023



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FROM THE EDITOR

The demise of L&G as a force in the modular housebuilding sector is not only a huge blow for higher-quality volume construction of energy efficient homes, it's also an indictment of critical issues in the supply chain which need tackling.

In May the pensions provider and new disruptor in the housebuilding market announced it would be stopping all production at its newly-built factory in Leeds, and likely disposing of it. The firm "remains committed" to the UK housing sector, having a range of businesses including Cala Homes under its umbrella, but it is understandably retreating from modular investment, having lost £176m in seven years.

L&G said that despite the cash it has put in, it had not seen a "strong and predictable site pipeline" to offset that cost, and laid the blame at lack of sites and "long planning delays," as well as the fallout from Covid. You have also to wonder whether the wider industry and public was sufficiently ready to adopt modular homes too, for that pipeline to be so inadequate against the pensions firm's risk analysis.

However, it's not as simple as closing a factory and stopping future production, several 'much-needed' L&G modular schemes are currently underway and need to be finished.

But now the results of problems in the supply chain from adapting to modular for new housing schemes have come home to roost for L&G. The 185-home Bonnington Walk development in Bristol was a flagship scheme with a lot of affordable provision, but now looks to be one that L&G would prefer to forget. It's going to have to tear down completed homes in the scheme because there are reportedly serious issues with the foundations. This cannot be purely down to the modular method used however; it suggests there are wider issues with changing the construction model, but this remains to be seen.

I don't mean to spread more doom and gloom in what's a dreary summer so far, but Ilke Homes going into administration is another hammer blow for mass modular housing production, and devastating for employees of course – most will be made redundant. The problem is not modular construction itself, but creating 'strength in depth' to deliver it; if the Government really wants modular as it claims to, it must incentivise buyers and builders, plus put levers into the planning system.

A concerted effort is going to be needed in order to make modular a sustainable mainstream option, and to ensure that the good news of Vistry reopening a factory doesn't end up sour for what was to be the 'future of housebuilding.' Will Gove's new 'super squad' of planners be a more serious platform for such intervention than the name suggests?

James Parker

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Cameron Homes unveils new 'sustainable living' properties



Midlands-based housebuilder Cameron Homes recently unveiled its new energy efficient home at its Lawnswood development situated near to the Staffordshire village of Tatenhill. Alongside its Sustainable Living at Lawnswood information hub, the show homes will “allow prospective buyers the chance to immerse themselves in the new energy efficient-focused offering,” said the developer.

Sustainable Living at Lawnswood will comprise two, three and four bedroom properties alongside a site adjacent to the National Forest where Cameron Homes has already built over 100 new homes. These new sustainable properties mark the next stage in this development.

The new show homes and information hub “will showcase the materials, technology and initiatives that have been selected for their positive impact on energy efficiency, ongoing living costs and environmental outputs.” The homes have been created based on research including a survey of 2,000 representative sampled consumers that Cameron Homes conducted, to “find out their wants and needs in an energy efficient new home.”

The research showed that a well-insulated home was the “most understood and recognised feature in reducing energy consumption, while photovoltaic panels were second in priority,” said Cameron Homes. Other technologies such as air source heat pumps, smart home technology and wastewater recovery “were also valued by respondents.”

As a result of the research, Cameron Homes has “invested in the components and materials that make up the fabric of the building, to ensure that the structure of the new homes are well-insulated.” They also include photovoltaic panels with battery back-up to collect and store

solar energy from the sun. All properties will also include low energy technology, wastewater heat recovery, low flush toilets and restricted-flow showers that will save homeowners money on energy costs.

Crest Nicholson acquires 200-home site in Hailsham



Crest Nicholson has purchased a site in Hailsham, East Sussex via Gleeson Land, on which it promises to deliver “much needed, high-quality new homes.”

The 37-acre site has outline planning permission for the development of 200 homes, of which 35% will be affordable housing, and will be a mix of two-to-five-bedroom properties. The development will include community facilities such as “extensive public open space,” two sports pitches, changing/storage facilities, and “biodiversity enhancements.” Works are expected to begin towards the end of 2023, with the first completions expected in summer 2024.

Nicholas Daruwalla, land director at Crest Nicholson South, commented: “This is a strategically important purchase for Crest Nicholson as we look to continue our delivery of homes across high quality locations near the south coast.” He added: “As with all our sites, we are committed to delivering not just homes, but a new destination for residents to enjoy open green spaces and amenities that are essential to building a community where people can establish a life and future for themselves.”

Housebuilder & Developer magazine announces association with FMB



Housebuilder & Developer magazine has announced its official association with the Federation of Master Builders (FMB), which will further enhance the relationship between the media brand and the professional trade body.

The FMB is the largest trade association in the UK construction industry, representing the interests of small to medium-sized building companies. This collaboration reflects how *Housebuilder & Developer* as a media brand has long championed the interests of SME firms in the sector, and builds on our existing relationship with the FMB over the years.

James Parker, managing editor of *Housebuilder & Developer* commented: “We have worked with the FMB for many years, identifying good projects to cover across the UK, and running an insightful opinion column from the organisation in every issue. Our new official relationship is a great way to take promotion of each other’s offerings to the next level, and we look forward to working even more closely together.”

Brian Berry, chief executive of the FMB said: “I’m looking forward to furthering our relationship with *Housebuilder & Developer* magazine and building on our pre-existing offering. This collaboration opens up an exciting opportunity to develop new, quality content for our membership.”

Readers will see further evidence of how *Housebuilder & Developer* is harnessing the benefits of this association with the FMB in the coming months. It will help develop *HBD*’s content as the magazine continues to provide readers with a unique blend of the latest projects, news, and insights, while connecting with the industry’s leading voices.

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Origin OB-49 Single Doors and OW-80 Windows with Aerogel were a perfect match for these newly built Carbon Neutral houses. The inclusion of Aerogel, known as the worlds best insulator, meant that the buildings were able to achieve the best possible U-Values in the industry.

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This project was completed by long standing Origin trade partner, The Glass Centre, so they knew the addition of revolutionary Aerogel would be a perfect match for the newly built Carbon Neutral houses. Origin are a first choice for developers requiring the most thermally efficient aluminium windows.



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Be First mixed-use Barking development includes 62 affordable homes



Be First, the regeneration arm of Barking and Dagenham Council, is to work with developer Weston Homes on a new site called Town Quay Wharf in Barking, east London, which will bring 147 new apartments to the area. The council will acquire 62 affordable units on a 'turnkey' basis whereby Weston Homes will build and deliver the completed units to the council.

The £50m mixed-use development includes 1,000 m² of commercial space with 42% affordable housing designed around a public plaza overlooking a Mill Pond and the River Roding in the area known as the 'Roding Riviera.'

Be First are acquiring an 11 storey block on behalf of the council, which will be converted to provide the 62 affordable housing units. Of these, 29 of the affordable apartments will be London Affordable Rent, and 33 will be shared ownership.

Designed by PRP Architects, Town Quay Wharf will reconnect Barking town centre to the waterfront. The three buildings are described by the developers as "striking," and comprise one 11 storey and two 7 storey buildings respectively, connected by pedestrian boulevards which open onto the new waterfront public plaza.

On the ground floor of the buildings there will be food and beverage commercial units, workshops and artists' studios, parking bays and cycle storage.

Avant Homes East Midlands appoints head of customer service



Avant Homes East Midlands has strengthened its senior team with the appointment of David Palfreman as head of customer service to further drive the housebuilder's expansion in the region.

Palfreman joins from residential developer Countryside Partnerships, and has over six years' experience in the housebuilding industry, having also held similar positions at Redrow and Morris Homes.

Palfreman's role includes overseeing the business' day-to-day customer service operation, supporting and managing customer queries, and also ensuring NHBC standards are met.

Commenting on his appointment, he said: "Avant Homes has strategic direction in terms of implementing its regional expansion plans, so I'm excited to join the business at such a positive time. Our team is focused on delivering a best-in-class service to our customers throughout the process of buying one of our homes. I look forward to working with them to ensure a high standard of support is provided, which will help in driving the business forward."

Avant Homes East Midlands has eight live developments ranging from Brailsford to Kettering, with "many more due to start as the business continues to implement its expansion plans," it said.

Avant Homes East Midlands managing director, Ben Felton, commented: "Having excellent customer service levels is key to our business. David's wealth of experience will help drive the team forward as part of Avant Homes East Midlands' continued evolution. We are excited to be welcoming him to the business."

Cala West promotes Ian Conway to West Scotland MD role



Cala Homes has promoted Ian Conway to managing director of its West of Scotland business, continuing its "commitment to developing homegrown talent and promoting from within."

Conway brings more than two decades of industry experience to the senior leadership team. He joined Cala Homes (West) in 2017 and was promoted to the West of Scotland board of directors in 2018 as strategic projects director, where he has been responsible for "driving forward some of the business' key developments," said Cala Homes.

Ian started his tenure at the start of July, and is "excited to lead the West of Scotland business to continue to deliver a diverse and thriving portfolio which ranges from city centre apartments to semi-rural family homes," said the developer. The region currently comprises eight live developments and future sites, with the strategy being to provide "over 400 new homes per year by 2025."

Ian said: "It's a real honour to be leading the Cala (West) business to build upon the strong position the team has really nurtured in recent years. We are focused on continuing our success in the land market by proactively seeking future sites, and ensuring our current developments continue to perform well, delivering much needed homes across the west of Scotland."



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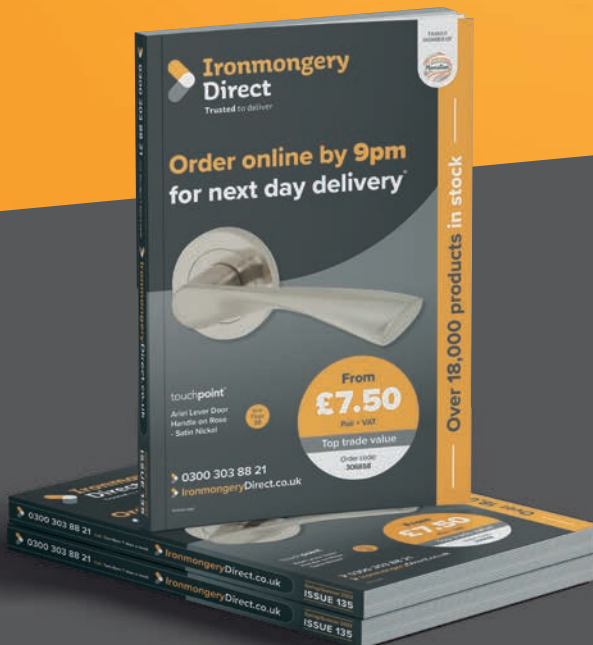
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Devonshire Homes scheme to deliver 347 units in Ilfracombe



West Country housebuilder Devonshire Homes has completed the purchase of 50 acres of land to unlock a significant new homes development in Ilfracombe, North Devon.

The development, named Mariner's Haven, is located south of the town, giving views across the Bristol Channel and open countryside. Devonshire Homes has planning consent for 309 open market and 38 affordable homes which will offer a mix of one and two bedroom apartments and two, three and four bedroom houses.

Partnering with "social impact investor" Housing Growth Partnership (HGP) to bring forward the "modern and energy-efficient" new homes, Devonshire Homes has announced that construction will start on the first phase of 17 homes imminently. Properties in the first phase will be ready for occupation in 2024 with the show home opening in early 2024.

Enhancing the community, Devonshire Homes will be making several contributions to the local area under the S106 agreement, totalling £2m. This will include sports pitches, a MUGA (Multi Use Games Area), LEAP (Local Equipment Area for Play), LAPS (Local Area for Play), and open space. Land will also be provided for a school and community facility to be built.

The Ilfracombe scheme is the sixth site acquired under the joint venture arrangements between the Tiverton-headquartered housebuilder and HGP in the last six years. "It is also an important strategic milestone for

Devonshire Homes as the 30-year-old residential home developer drives its ambitious five-year growth plan forward," said the developer.

Angus Cook, managing director at Devonshire Homes, commented: "Ilfracombe is a significant site for us, and we're delighted to be bringing this development forward in partnership with HGP. We know there is strong demand for high quality new-build homes amongst a wide range of buyers in the region. With the site's proximity to the North Devon coastline, we anticipate Mariner's Haven will be an attractive option for prospective purchasers looking to stay in, or move to, the area; and enjoy all the benefits of easy access to the stunning coastline."

New Sheffield firm secures eight sites in eight months

Within just eight months of launching, Sheffield-based housebuilder Honey has announced it has secured eight sites in Yorkshire and Derbyshire that will deliver "1,000 plots and revenues of £300m."

Honey said it is also in "advanced negotiations" on a further seven sites from Nottingham to Leeds, which it expects to exchange contracts on by the end of this year. Subject to planning, these will deliver a further 930 plots in total with a gross development value of £260m.

The developer has also revealed the appointment of former Vistry Group head of land, Luke Herring, as land and planning director to drive its site acquisition programme.

Honey was founded by former Avant Homes chief executive officer, Mark Mitchell, in October last year. The



company is backed by private equity firm Alchemy Partners and its Alchemy Special Opportunities Fund IV which has £937m of "fully committed capital." The housebuilder's first development, a £14m, 50-new home scheme called Amber in South Normanton, Derbyshire, is currently onsite.

Honey has recently submitted plans and exchanged contracts to deliver a £20.35m, 75-new home development in Matlock, Derbyshire. The housebuilder is also awaiting a decision on its plans for a £23.5m, 95-new home development on Barnburgh Lane, Barnsley.

The five other secured sites are located across Yorkshire and the Midlands. The housebuilder currently employs 20 people with a further 15 due to join before the end of September.

Honey chief executive Mark Mitchell, said: "We have significantly exceeded the expectations we set in our business plan, and have developed a great deal of momentum in our first eight months of trading. Hiring Luke is a very important appointment for us as it will enable us to maintain this momentum. He is an excellent operator with the capability, drive and ambition to deliver our growth plans to quickly become an established housebuilding brand within the north of England and the Midlands."





Meet the new EHS Mono HT Quiet

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Samsung's newest eco heating system is the ideal heating solution for Europe's residential renovation market. Durable and stylishly designed, this heat pump combines advanced features and new technologies to achieve hot water temperatures of up to 70°C¹ for domestic heating purposes. It operates at noise levels as low as 35 d(BA)² using a 4-step Quiet mode. It is also capable of reliably providing 100% heating performance* even at temperatures as low as -25°C³. Installation and maintenance of the unit is easy and hassle-free, with its internal parts being accessible via a side panel which can be removed by simply undoing 3 screws.

1. Leaving water temperature, when the outdoor temperature is between -15°C - 43°C. Results may vary depending on the actual usage conditions.

2. Based on internal testing of the EHS Mono HT outdoor units. The noise level is measured 3m away from the front of the outdoor unit, in an anechoic room with an outside temperature of 7°C. Results may vary depending on environmental factors and individual use.

*Efficiency ratio of heating output (capacity) versus power input (electricity). Internally tested under lab conditions based on EN 14511, results may vary depending on the actual usage conditions.

3. Based on internal testing on an EHS Mono HT outdoor unit (AEI20BXYDGG), compared to a conventional EHS outdoor unit (AEI20RXYDGG). Results may vary depending on the actual usage conditions

The Quiet Mark certificate is applicable for UK & EU territories only.

ROUND TABLE REVIEW

'Solutions for Compliance: Part L and beyond'

© Tom Boddy



On 24 May 2023, at London's Building Centre, netMAGmedia staged its first construction round table to bring housebuilders, architects and suppliers together to discuss the current challenges posed by Part L, but also look forward to the Future Homes Standard. The event was sponsored by glazing, bifold and sliding doors manufacturer IDSystems, thermal breaks manufacturer Schöck, and PIR insulation manufacturer Recticel. Here James Parker, editor of *Housebuilder & Developer* and event chair, reports on the highlights.

We staged our first industry round table a month before the legal requirement was brought in for all new homes to comply with the new Part L of the Building Regulations, which requires them to produce 31% fewer carbon emissions than the previous Regs. This is a key step towards the 2025 Future Homes Standard, which will require a

much more demanding 75%-80% cut in emissions, meaning major changes to both building fabric, design, and integration of renewables and alternatives to fossil fuels.

Our well-timed event saw representatives from housebuilding and architecture sharing their current issues with Part L, as well as our suppliers contributing valuable insights on the benefits as well as difficulties being experienced in complying with the requirements. There were candid revelations on attendees' perception of the Future Homes Standard, such as on the current timeline in the context of the industry's remaining challenges.

As well as Part L, the updated Part F on ventilation and the new Part O on overheating came under scrutiny, and the required trade-offs in order to achieve one standard without failing on the other, with the tighter U-values tending to mean challenges on avoiding excessive overheating. The event also saw discussions around challenges in terms of future homes' aesthetics, and how the planning system remains a stumbling block.

Building Insights LIVE was an unusual opportunity to host a frank conversation around compliance with the new regs,

"THE HISTORIC TENDENCY OF HAVING TO CHOOSE THE MOST COST-EFFECTIVE PRODUCT IS NOW HAVING TO CHANGE"

DAVID CLARKE, IDSYSYSTEMS

ATTENDEES:

Chris Carr, managing director of Carr & Carr Builders/vice president Federation of Master Builders
Shikha Bhardwaj, lead sustainability designer, Hawkins\Brown Architects
Chris Perry, senior architect, TODD Architects
Tzeh Bin Cheong, technical director & residential lead, Shepherd Epstein Hunter Architects
David Clarke, marketing manager, IDSystems
Bill Hayward, sales director, Schöck
Simon Blackham, technical manager UK & Ireland, Recticel



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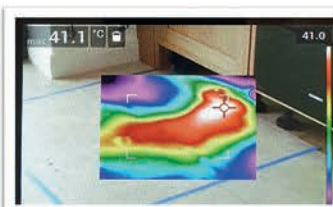
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specifiers and key suppliers exploring how to harness different aspects of building fabric, in particular. It also used the reader survey data collected in our Industry Viewfinder white papers as a springboard for elements of the discussion.

Following this successful first event, we will be holding more Building Insights LIVE round tables in future, beginning with a round table dedicated to Solutions for Stormwater Management in October.

THE CARBON AGENDA

The first question on the agenda that the panel discussed was whether cutting 31% of emissions as a result of Part L 2021 had been a major headache, in the context of current pressures such as skills, materials supply chain issues, and inflation.

SME housebuilder Chris Carr said that his firm was struggling with the fact that they were “trying to build with materials that were not fit for purpose in some cases.” He explained further, saying that “materials quality and design have not improved with the policy,” i.e. the new central drive to produce much more energy-efficient homes than the industry has been accustomed to.

This issue of a lack of rigour when it comes to skill levels among subcontractors feeds directly into the performance gap between design and build. “Unless we engage them, we are going to have a problem,” he said.

Architect Chris Perry said that with his practice principally working on London residential schemes, they were already designing to a performance level well beyond Part L, as the London Plan requires all new homes to be ‘net zero.’ He suggested that for this level “around

60%” of compliance was possible using fabric improvements, and “topping the rest up with PVs.” Based on this, said Perry, the 31% cut in emissions in Part L could be “easily achieved, at least in theoretical design terms.”

Perry added that “it’s when you get to site that you hit problems,” adding that most of the headaches he had experienced “had come from suppliers,” as well as achieving Part O when working with a more energy efficient fabric, and embodied carbon.” The latter is not covered in Part L, but reducing it is fundamental to achieving the UK’s legally binding 2050 net zero goals.

Tzeh Bin Cheong from Shephard Epstein Hunter described issues experienced on a couple of the architecture practice’s ongoing London residential projects, where wall thicknesses and other fabric measures had been upped significantly to comply with the London Plan (35% lower emissions than Part L). He agreed with Perry that problems had arisen making the trade-offs between Part L’s stipulations on U-values and the resultant impact on overheating and Part O compliance. He gave the example of a new build residential scheme in Redbridge inherited from another practice, which was now being redesigned with smaller windows in order to balance compliance with both Parts L and O.

BUILDING FABRIC FIRST

We asked our attendees to submit comments or questions for discussion during the round table. Simon Blackham from PIR insulation firm Recticel’s offering was that fabric-first “should be the

default starting point; a back-to-basics approach that gives a robust, reliable platform for renewables.” However, would improvements to the building fabric alone be a realistic solution for the Part L 2021 requirements, or was including renewables a given?

A 2022 BCIS survey of housebuilders found that nearly 45% were using air source heat pumps within their solution to meet Part L, set against 30% favouring gas boilers and PV, and the remainder selecting a hybrid approach. The heat pumps industry accepts that the required efficiencies will only be realised with a low U-value fabric, a view echoed by attendees.

The key fabric elements of windows, insulation, and thermal breaks were represented by our sponsors. David Clarke from IDSystems admitted that across the glazing industry generally, “products are designed to meet the regulations, not to go far in excess,” which could raise issues around Future Homes Standard compliance. He added that the “historic” tendency of choosing the most cost-effective product “is now having to change.”

Chris Carr said that getting installation right was the key, and during his time as joint chair of the Zero Carbon Hub’s ‘Design vs As Built’ project, the Hub identified that thermal bridging was “the one thing that was failing dramatically” in terms of as-built performance.

Architect Chris Perry concurred, saying that “it is the most frustrating thing when you go to site and can see gaps between insulation sections,” adding “it makes it all a bit pointless.” Chris Carr said that his housebuilding firm was now getting joiners to install PIR insulation, as bricklayers “just want to lay bricks and blocks.”

Blackham echoed David Clarke of IDSystems, saying that delays to getting products tested was hampering results across the sector on energy efficiency. As well as dealing with a limited number of testing sites, he said “we’ve got the June 2025 deadline of CE marking no longer being recognised,” though the new UKCA mark “was exactly the same as a CE mark.” David Clarke agreed that the lack of testing facilities was also causing major challenges for firms looking to supply ‘net zero ready’ homes for the Future Homes Standard (currently slated for 2025).

When it comes to the biggest compliance issue for housebuilders, Carr says it’s providing the ‘BREL photo BREL evidence of proper installation across every area of a site. For example, “you need to get ducting spot on, but on a building site, it’s whoever’s there first that takes priority.”



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Zaptec currently offer two charge points, the Zaptec Go and the Zaptec Pro. The Zaptec Go is perfect for fast and simple home installations while the Pro is oriented toward large site installations, specifically apartments and workplaces. Last year, the Zaptec Go was internationally recognised as the winner of the 2022 Red Dot Design Award for Best Product Design. It is available in 6 colours which customers can easily purchase from Amazon and is competitively priced based on volume. The Zaptec Pro on the other hand provides an excellent end user experience for apartments with parking, where government grants are available to help with the costs. It has patented technology to ensure the car receives the maximum available power.

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In summary, Zaptec offer developers two high-quality, safe and cost effective solutions for both houses and apartments. The Zaptec Pro and Zaptec Go combine quick and easy installation with award winning design that customers and users will appreciate. To top it all off, Zaptec was voted the safest EV charger with the best technology in 2022 by the NAF (Norwegian Automobile Federation).



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GIVING CUSTOMERS WHAT THEY WANT

Chris Carr said as a housebuilder he took a slightly different approach to the 'fabric first' mantra, in the interest of delivering what customers want: "We've gone design first, fabric second," he told the panel. "We're looking at building houses 'from the inside out' – we need to know what we can do inside, including in terms of floor space, before we look at the facade." He mentioned an ongoing development which had outline planning for 240 homes but his firm is looking to build 137 instead, in order to offer the space that customers want.

Shikha Bhardwaj from Hawkins\Brown said that one of the remaining issues was that the housing sector is talking about U-values, net zero and PVs, "but is not actually talking about the comfort of the occupants, which is absolutely essential." She said that just focusing on heat pumps was counterproductive to creating a product that consumers will buy into: "They are part of the strategy, not the strategy, and step one is to better understand what the occupants want."

Chris Carr remarked that in terms of improving ventilation and natural ventilation in line with the new Part F, there had been research work underway (with Arup) looking at cross-ventilation of apartments, immediately pre-Grenfell. However, following that event, getting cross-ventilated designs on the table was "suddenly not the best idea," but he added that "whichever solution we find, has to be adaptable for everybody."

COUNTING THE COST

In our 2022 Industry Viewfinder audience survey conducted on Part L, 65% of respondents thought that added cost was the biggest challenge, and the estimated average £10,000 extra per unit would be passed on to customers by 77% of respondents. However at our round table, Chris Carr said that the cost increase would actually be 10% per house for his firm (around £30K-£40K), a huge increase on some estimates which have put it as low as 3.6%.

The quality of installation is clearly at the core of ensuring that fabric measures have the desired result, particularly in terms of customer confidence, which was damaged again following botched Green Deal installations. Simon Blackham said that in order to make things easier for installers, Recticel introduced a tongue-



and-groove full-fill PIR board solution which has become a major part of its domestic business. It is designed to be simply installed in narrower cavities than would normally be required to achieve that U-value level.

Chris Perry said that his own research had found that creating 'net zero'-ready homes for 2025 would be around 15-20%. He added that consumers "are willing to pay 10% more for a zero carbon home," but that "the value it adds is really more than that." He added: "Imagine we were in a tech industry, there'd be so much development into reducing the costs, because it's something people want and are willing to pay for." Chris Carr however said that more of his customers needed to be persuaded of the reasoning for the large cost uplift.

PART L VS PART O

Shikha Bhardwaj said that in order to avoid overheating and comply with Part L, the industry "needed to have a conversation about internal heights, as we end up doing designs for 2.5 metres and these heat up quickly." She added that it's "a balance between comfort, carbon, energy and what the developer wants."

The Standard Assessment Procedure (SAP) and its associated challenges came up several times during the discussion. Chris Perry said that an unfortunate side-effect of the need to make SAP very flexible to balance policy across various building typologies was that it has ended up "so opaque." Bhardwaj said she worked closely with energy consultants on projects to "identify whether the energy figure they were aiming at is sensible." She explained further that "In SAP, you can only benefit from a certain U-value up to a certain point."

Chris Carr said that with temperatures rising in coming years, UK developers should be looking to countries such as Spain for inspiration, such as by including

shutters. "We are looking at a design of shutters sliding across which will block the sun completely in summer, but which in summer are also a thermal break." He added: "We are trying to reinvent the wheel. Maybe we just need to look what other people are doing." Bill Hayward of Schock countered: "No-one wants to pay for it, that's always the issue," but Carr responded that with Future Homes Standard homes costing "20,000 plus per unit" more, "some of these other products become commercially viable."

David Clarke of IDSystems submitted a question: 'Where does the balance lie between glazing performance and appearance that is going to be necessary for Part L compliance?' He said his customers "have got used to seeing inside-out living, and floor to ceiling windows," but added "we know that is not necessarily going to be achievable." Bin from Shephard Epstein Hunter responded with a challenge to the floor-to-ceiling window specifiers: "Our energy consultants keep telling us that anything below the waist in terms of glazing is a waste."

Chris Perry asserted that the only way to hit the balance between Part L and Part O, especially with the Future Homes Standard, is "modelling and testing." He said an MEP engineer has to be involved "right from the start," and that "the very big housebuilders are already doing this, but at the smaller scale it hasn't got through." Chris Carr said that modelling had to take into account the "as lived in" performance of homes, as "a priority, and work backwards from there."

PLANNING TO FAIL?

Chris Carr suggested that as there were issues around planners' engagement with building performance currently, Building Control should be brought into pre-application meetings to help them achieve the right between the standards. He told the group: "Planners aren't interested in how it physically works – you have to educate them on why we are doing certain things that affect the look, such as why we can't put PVs on the rear of all the properties."

Shikha Bhardwaj said planners "needed to change their mindset on how 'ugly' a zero carbon home will be." Bill Hayward of Schock added that there was a 'not invented here' syndrome of conservatism present in planning departments which

"IMAGINE FOR A MINUTE WE WERE IN A TECH INDUSTRY, THERE'D BE SO MUCH DEVELOPMENT INTO REDUCING THE COSTS, BECAUSE IT'S SOMETHING PEOPLE WANT AND ARE WILLING TO PAY FOR"

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needed to change: “They need to be prepared to let go of what they know, if it’s a new technology, you have to do so much work to get any agreement.”

LOOKING FORWARD TO THE FHS?

The second session of the discussion moved onto a glimpse of the not-too-distant future – the jump in performance that will be required in 2025 to produce ‘net zero ready’ homes, and meet the Future Homes Standard (FHS).

David Clarke of IDSystems candidly admitted that in the event that triple glazing was required, some of the firm’s current window systems would be “obsolete.” Chris Perry pointed out a further issue around triple glazing however, in that it significantly adds to a project’s embodied carbon.

Clarke added that with budgets normally under pressure in one-off house projects, it was difficult to persuade homeowners to specify windows that were ‘future-proofed’ against the incoming FHS, rather than ones which just meet current Regs: “It’s very difficult when it’s something they’re not necessarily going to immediately see the benefit of.”

However, one area where the FHS would lead to real beneficial change in specification, according to Bill Hayward, was that products would be treated “as part of a system rather than individually. At the moment, you solve one problem, and create another one,” he said. David Clarke concurred, adding: “It’s counterproductive to just aim for that U-value figure, because you may not be taking into account that if you went slightly better, you impact the whole fabric.”

The BSI has found that thermal bridging can cause up to 30% of heat losses, but there were design challenges in resolving them, said our panel. For example, Chris Perry cautioned that “massive cavities” can result in needing bespoke ties and other structures, thereby increasing a project’s embodied carbon for one.

However for suppliers there are obvious benefits to the jump in performance required: David Clarke said that what were currently potentially “overly efficient products” which have been on the shelf are now seeing the light of day in specifications.

Chris Carr said he was concerned that the in-demand bungalow designs his firm produces are unlikely to be achievable under the FHS, but advocated brick slips in order to produce bigger cavities without losing floor area, as brick is “decorative, and not load bearing.” He continued however that achieving this was compromised by issues like brick firms saying lintels were “not ready for it,” but asserted “there was no reason we

can’t do it now.”

He added that the standard balcony designs he uses for homes were “having to be redesigned, because there’s no way we can get them through the new Regs, and definitely not through the Future Homes Standards,” and dormer windows will be unlikely to be a feature post-2025. They have been advised that balconies will need to be “completely separate” from the structure to avoid thermal bridging. He’s lobbying the Department of Housing to push back the FHS deadline by at least two years, due to concerns from SMEs around obtaining materials in competition with volume housebuilders.

Air source heat pumps are likely to be the de facto space heating solution for the FHS in 2025, as gas is phased out. Chris Carr said that his firm was looking at PV and battery storage, plus electric heating on the ground floor of properties, and “potentially infrared heating on the first, because I’m really worried about people being cold in these houses, and infrared can provide a boost.” However he did add that “if you get the fabric and design right, it’s not going to take a lot of heating,” and his firm was going to 150 mm cavity insulation currently.

CHALLENGES OF THE FUTURE

Simon Blackham reckoned that the main issue for delivering the Future Homes Standard was “skills,” but also identifying what ‘net zero ready’ actually means. He also expressed concern that the progress to the standard was currently “piecemeal,” and beleaguered by the five year political cycle.

Blackham exclaimed that ‘zero bills’ houses are “surely where we should be going,” given the extent and danger posed by climate change globally. The round table showed there was still a long way to travel on this road before the industry is ready to deliver this.

Bill Hayward, echoing Chris Carr’s remarks, suggested that “maybe the answer is to reduce what we are trying to achieve; maybe we need to break it down into smaller parts.” One final moment of consensus around the table was that thanks to the Government not having “made its mind up” on the way forward, our panel believed the Future Homes Standard will not be implemented in 2025, although it is technically achievable.

Chris Carr revisited the Government’s ‘build beautiful’ idea finally, but said that to meet the new regulations, it would be a case of “build practical, and try to make it as beautiful as possible.”

We would like to thank our round table sponsors IDSystems, Schock and Recticel for supporting Building Insights LIVE



“PLANNERS AREN’T INTERESTED IN HOW IT PHYSICALLY WORKS – YOU HAVE TO EDUCATE THEM ON WHY WE ARE DOING CERTAIN THINGS THAT AFFECT THE LOOK”

CHRIS CARR, CARR AND CARR BUILDERS

ROUND TABLE RECOMMENDATIONS

Our attendees provided recommendations to both help the industry towards Part L compliance, and to tackle the upcoming Future Homes Standard.

Chris Carr: Planners need to work together with Building Control officers, and we need exemplars to share good practice of design and delivery. We also need to delay the Future Homes Standard by two years minimum, due to materials issues.

Shikha Bhardwaj: It’s looking at net zero carbon as a bigger challenge than just focusing on compliance, and instead using compliance as a layer of it, not the entire solution. Also, we need to focus on user comfort.

Chris Perry: The early stages of the designs are now even more important, and you need to have everyone on board to create something that works in a holistic way, and so you don’t hit problems later.

Simon Blackham: There’s a need for clarity; it’s not beholden on manufacturers to approve something which we haven’t designed to be used in a certain way.



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Matthew Grist, director at
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GREENFIELD &
BROWNFIELD
DEVELOPMENTS
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BE ALLOWED,
BUT ACTIVELY
ENCOURAGED

COMMENT

HOW TO NAVIGATE THE TERRITORY BETWEEN GREEN AND BROWNFIELD DEVELOPMENT

Matthew Grist of Jubb explores the grey area between green and brownfield development, and the engineer's role in turning viable sites into thriving communities.



While “Rome wasn’t built in a day” is a common term used widely in the English language, you may not know that it’s actually the translation of a French phrase used all the way back in Medieval times; meaning that we have been trying to manage expectations around large-scale development for more than 800 years.

However, the art of looking back provides greater understanding along with the opportunity to move forward with insight, information and impetus; elements that will be vital in order to deliver on the Government’s new homes pledge.

The current housing reality is hampering

our competitiveness as a nation and, put simply, both greenfield and brownfield developments must not only be allowed, but actively encouraged to progress in order to respond to the UK’s supply, demand, quality and affordability issues.

UNLOCKING POTENTIAL

Rather than the tendency to pit urban and rural against each other, they need to be collectively embraced in order to drive economic growth. And, to me, the foundations of strengthening the country’s position requires a reframing of the ‘levelling up’ discussion.

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As highlighted by the 'Centre for Cities,' the notion that investment should be ploughed into making places equal simply doesn't stack up. It could put us at risk of being a 'Jack of all trades and master of none,' when the UK needs to identify and invest in specific areas of strategic significance in order to strengthen its position.

Yes, there are always red tape hurdles to overcome and yes, there are often numerous and very diverse stakeholders to please, but by looking at various scenario plans and work-a-rounds, collective and collaborative decisions can be made for the good of the end users. Working with a strategic partner that has knowledge and experience across multiple disciplines, such as ground engineering, transport, civils and structural work, partners can achieve a holistic approach, rather than ones that focus on quantity rather than quality.

Here we look at two examples in practice where we provided strategic input. With an aim to provide smart, tailor-made solutions, these case studies, very different in their nature and requirements, deliver forward-planned solutions to meet immediate, emerging and future needs.

GREENFIELD & GOING FOR GROWTH

Westley Green is a proposed new community situated along the Cambridge Norwich Tech Corridor – an area billed as 'the home to the future of food, clean energy, medicine and mobility'. Set to create around 8,500 homes and drive down local road usage by 84%, what makes this scheme different is its potential to be truly self-sufficient.

Set in a location of strategic importance, the Westley Green site will support further growth within the Cambridge Norwich Tech corridor. This substantial landholding can not only house a number of uses – residential, community, employment and education – but also has the potential to accommodate necessary utilities; generating its own power, dealing with its own waste and having its own sewer system.

And this has all been achieved by taking a transport strategy-led approach; reviewing a mix of transport modes and strategies that keep the external movement of people to a minimum.

Compared to a traditional housing development, Jubb had to undertake more detailed analysis, taking into account demographics and increased home working along with other behavioural changes. For example, current plans include extending the use of electric buses which could become driverless vehicles in due course.

Due to the likelihood the scheme won't



be totally complete until 2050, what's remained at the centre of the proposed development is a balance in order to deliver a community with just enough employment alongside the right amount of housing.

BRINGING BROWNFIELD BACK TO LIFE

Heralded as an iconic scheme which forms a key strand of Somerset West & Taunton's Economic Strategy 2021-24, Firepool in Taunton (image, above) has played host to the transformation of a former cattle market into a site ripe for development.

Vacant since 2008, it was a genuine 'blot on the landscape.' Situated in a prime position, on the river front and next to the train station, its underutilisation has been a scourge on Somerset's most significant growth hub for some time.

Acting as a 'gateway' to the town and an extension of the centre, the Firepool project is an ambitious low car use scheme which is set to complement Taunton's wider 'Garden Town Vision.' Aimed to provide a sustainable addition to the town, this open, low-rise residential development has been carefully integrated with the public realm to add value rather than volume.

COLLABORATION IS KEY

While macro-economic issues will be well out of our hands, as a strategic partner what we can take control of is how we work together in order to bring truly sustainable schemes forward. And successful delivery can only be enabled if we adopt a paradigm shift from financials to individuals. People remain at the heart of a community and are the figures we should all be focusing on; not the number of units or rental yield targets.

Public realm or site infrastructure can often be overlooked as important

income assets within land development, but the value it provides is priceless. And, with both green and brownfield land offering both the scope and scale required to deliver community-minded schemes, it's simply imperative they be unlocked in order to deliver the 'future-proofed' communities this country desperately needs.

Supplying demand before there's even a need is no mean feat, but the viability of a site can only truly be measured by the value it will provide to occupiers. And value isn't in the form of revenue. While income is of course a basic need, it's not the be all and end all. There are undoubtedly times when profits have taken precedence over people, but you can't have one without the other and the individuals will provide requisite income levels if we get the key elements of a development right.

BUILDING A BETTER FUTURE

Strategic land opportunities will only deliver success if the correct strategy is applied. Regeneration is about improving on what once existed and the mix of uses need to be fit for both current and future needs.

As an industry we need to learn from past successes, especially those of our counterparts, so that we can move forward positively to deliver developments that achieve their productivity potential.

Whether investment in a particular area supports a high volume of specialist products, innovative tech and medical advancements – or nurtures a number of future Olympic superstars – we need to embrace our differences and utilise them in order to build a better future.

Matthew Grist is a director at Jubb Consulting Engineers



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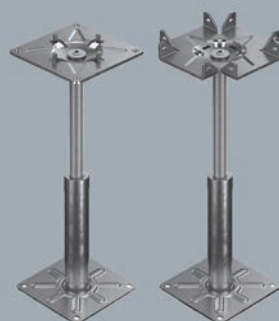
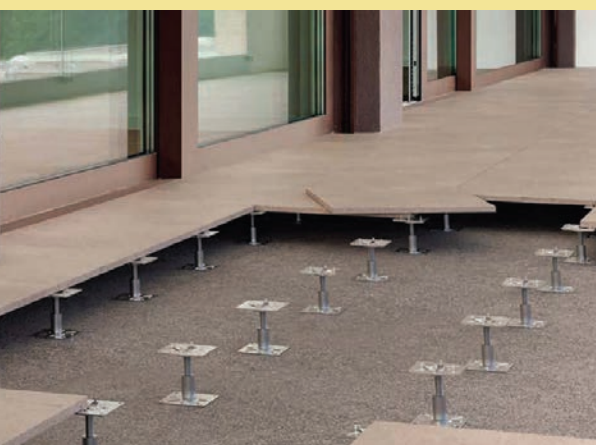
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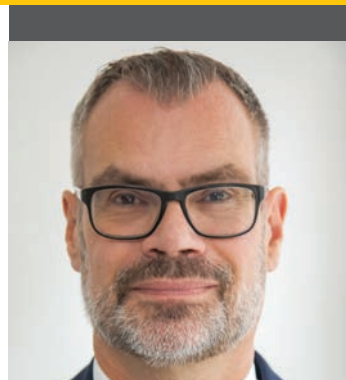
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Brian Berry of the Federation of Master Builders

IS HOUSING GOING DOWNHILL FAST?

Brian Berry, CEO of the FMB looks at the prognosis for SMEs in a sector in crisis, and how its new guide could help

All the data, including our own at the FMB, seems to be suggesting the housing market is dipping, which suggests the Government's ambition to build 300,000 homes each year is way off target. Whether this can be turned around is largely in the hands of the Government. I'm confident that the FMB is doing everything it can to promote the importance of housebuilding, especially the need for a renaissance of SME builders, to help build healthy, quality homes, fit for their communities.

HELPING NEW HOUSEBUILDERS

Despite the gloomy picture in the housing sector, I'm pleased to report that a new guide aimed at helping new housebuilders get into the housing market was officially launched in July. Developed through the Construction Leadership Council's SME Housing Sub-Group, led by the FMB's vice president Chris Carr, the guide is a one-stop-shop for prospective developers. It contains the collective wisdom of housebuilders with decades of experience, many of whom noting that they wished they had such a guide when starting out.

The guide's application though goes far beyond new entrants into the house building market. It sets out the hurdles, pitfalls, and hoops that house builders have to navigate to get a house from conception to reality. I hope that many councillors, planning officers and government officials will take a flick through to understand the market they're dealing with. So far, feedback has been extremely positive, with many from the public sector and construction industry alike, noting its importance to help more people into the housing industry.

Hopefully, the guide will make a difference to our sector and encourage more house builders to enter the market. We know that the number of small, local housebuilders is on the decline, but if we are to step up housebuilding numbers we will need more and not fewer local housebuilders. We can't let more and more of the market share for new homes fall to major developers, it's not good for consumers, and only helps fan the flames of NIMBYism.

STATE OF THE MARKET

Small, local housebuilders are struggling in



a market that has seen the fastest decline in residential construction since May 2020, but that was a time when we were all gripped by the Covid pandemic. We need to be building more homes, yet we are moving in the opposite direction. There is a whole generation of people who can't get on the housing ladder, which is holding back growth and investment. While it might be politically easy to shelve housing commitments to gain votes in the Conservative heartlands, the Government must show they are committed to delivering 300,000 new homes.

To deliver this many homes the Government needs a clear plan to solve the housing crisis, otherwise we'll continue to see overcrowding and increasingly unaffordable rents as more cling on to rental properties. While there are long term issues to solve with the planning system, the Government needs to take the bull by the horns and get Britain back to building homes.

PARTY CONFERENCE SEASON LOOMING

Housing policy will play a key role in the upcoming party conferences. The Labour Party has set out some bold ambitions but is lacking the details about how and when the new homes will be built. The question still remains whether the Conservative Party can match this ambition. Will the Conservative Party see housebuilding as a vote winner, or a potential sticky issue for voters in their traditional strongholds? Time will tell!

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Patrick Mooney

A QUESTION FOR THE MINISTER...

Patrick Mooney, housing consultant and news editor of Housing, Management & Maintenance magazine asks the '64 thousand dollar question,' after hearing the Housing Minister's conference speech, namely where will the UK's much needed new housing come from?

During the recent Housing conference in Manchester, the Housing Minister Rachel McLean gave a surprisingly upbeat assessment of the Government's housebuilding record and its future prospects. Was she just being loyal to the current administration, or could there be a sound basis for such optimism?

I confess that I was more than a little surprised when Ms McLean told delegates the Government is still targeting the building of 300,000 new homes a year. After all this is an issue that had threatened to split the Conservative Party in the past year and tensions were only cooled when Michael Gove agreed to scrap the need for local targets.

This struck developers and commentators alike as a classic compromise, but also one that could fatally undermine all efforts to deliver the headline target. It seemed like NIMBY (not in my backyard) had morphed into BANANA (build absolutely nothing, anywhere near anyone). But it's also possible the nervous Tory MPs in the Shires miscalculated a changing mood in the public, with many more voters expressing their support for more housebuilding.

In recent weeks, we've also heard of all sorts of difficulties – from setbacks in modular building capacity, to councils and housing associations scaling back their development plans and volume builders accused of slowing building rates on their sites and delaying use of their land banks. The prospects are not looking great and that's without even taking account of difficulties in the wider economy.

In her conference speech Rachel McLean appeared to pin a lot of her optimism on the sector's recent track record for house building. She said that in the past year, annual housing supply was up 10% compared with the previous year, with more than 232,000 net additional homes delivered in 2021/22. She also complimented the social housing sector and promised them more support in her speech, but stopped well short of backing this up with any extra money.

The House Builders Federation have



countered by warning the Government that its proposed Infrastructure Levy will have a detrimental impact particularly when coupled with increased regulation and a planning process which the HBF claims is grinding housing delivery to a halt! They calculate that changes to the National Planning Policy Framework are costing the country about 77,000 unbuilt homes.

More than 2.2 million homes have been delivered since April 2010 when David Cameron first entered Downing Street as Prime Minister. This looks like an impressively large figure and yet we still have a huge (and growing) housing crisis in the country as the country's demographics continue to change and evolve.

There are more than 1.2 million people on local authority housing waiting lists and last year, just 6,554 social homes were built in England, 81% fewer than in 2010 and a fraction of the 90,000 new social homes needed every year according to the NHF and Crisis. Homeownership rates have fallen from 66% in 2010 to 64% last year. House prices appear to have plateaued but are still averaging something like 11 times average salary levels.

RISING LOAN COSTS

Economic problems and stubbornly high inflation have combined to push up interest and mortgage rates to 15 year highs.

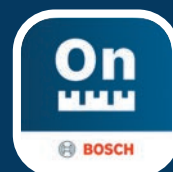
MORE THAN
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Repayments have shot up and many mortgage deals have been pulled. It is getting to the stage where nearly everyone either has direct experience of housing affordability problems, or knows of a family member or friend who is in difficulties.

According to the campaign group Generation Rent (GR), the average time it takes to save for a home deposit in England has climbed to almost 10 years underlining the growing unaffordability for first-time buyers. Data issued by the Halifax building society earlier this year found the average deposit for those buying their first home in 2022 was just over £62,000 – up 8% on 2021.

In London GR claims the average time before someone is able to step on to the property ladder is 18.3 years. However, that is only if the individual lived in a flatshare the whole time. If they were to rent on their own, they would need to save for 27 years, the researchers claimed.

Ben Twomey, a director at Generation Rent, said: “In much of the country the typical worker faces at least a decade living and saving in the private rented sector before they have a mortgage deposit. That gets close to two decades for Londoners, and even then, that’s only possible by sharing with other people into their 40s.”

So is it shortfalls in supply that are driving prices up and demand through the roof, or is it a political and economic downturn that is damaging builders’ confidence levels and forcing them to cut back on their development plans?

The Chancellor has tried to strong arm the banks and building societies into being more flexible with their borrowers by extending loan terms (up to 35 or even 40 or 50 years), giving payment holidays and holding off from calling in the bailiffs. But the Treasury is not awash with cash and its reluctance to finance any specific offers of help, is severely limiting the pressure they can apply.

Not long before the Manchester (Housing) conference, the NHF published the results of a survey which shows the Conservative Party might have lost touch with their grassroot supporters and the wider electorate more generally. The poll results show the majority (52%) of Conservative voters in Britain believe we are not building enough social housing while around half (48%) think the Government should prioritise building



social housing over homes for sale (28%) or private rent (8%).

The results showed a strong consensus among Brits of all ages, political affiliations and across all parts of the country, over a need to build social housing above other types of homes. Over 50s, the demographic most likely to vote, were most in favour of prioritising social housing.

The survey also revealed the public’s view of the Government’s record on housing, with nearly two-thirds (64%) of voters saying they thought housing issues in general had got worse since the last general election. When asked whether housing issues had got worse for specific groups, the highest number of voters (70%), said they had got worse for people on low incomes (less than £20,000). This was true for voters from all three main parties.

A LONG TERM PLAN FOR HOUSING

The polling coincided with the NHF launching a new report, ‘Why we need a long term plan for housing’, which makes the case to all political parties for a strategic, long term plan aimed at drastically increasing the number of affordable and social homes built over the next decade.

It revealed that the Government has published national strategies on areas ranging from space (the National Space Strategy) to shipbuilding (the 30 Year National Shipbuilding Strategy) but it doesn’t currently have a national strategy for housing. Which brings us back to the mismatch between having the 300,000 new homes a year target, but withdrawing the need for local delivery plans and targets.

Kate Henderson, chief executive of the NHF said: “There is a clear consensus among voters from all parties and people across all ages and parts of the

country, not only that we need to build more social housing, but that this should take precedence over building any other types of home. There is also indisputable evidence that housing policies over the last few decades, particularly those focused on home ownership, have widened inequality, increased Government spending and made the housing crisis worse.”

She added: “How can it be that we have a national strategy for space exploration, but no strategy for homes back here on earth? With such strong public support for and proof of the need for more social housing, it’s time for politicians to catch-up and make meaningful commitments that will solve the housing crisis and ensure everyone has access to a safe, secure and affordable home. We urgently need a long term plan aimed at drastically increasing the number of affordable and crucially social homes built over the next decade.”

The private rented sector has been picking up much of the slack in the market, providing temporary homes for those who are waiting to get on to the property ladder. But even here, there is evidence that many ‘accidental’ landlords are taking fright at changes in regulation and the weaker economy by selling up some or all of their homes for let.

Councils and housing associations are keen to pick up the slack and increase their housebuilding, but they are constrained by the lack of cash available to subsidise the cost of building. Their own resources are spread too thinly to deliver on all their priorities, with the Government and social housing regulator requiring them to undertake more decarbonisation work, improving energy efficiency and tackle safety issues, like damp and mould in their existing stock. Social rents have also been capped, mainly in an effort to control the housing benefit bill, but with the unplanned consequence of reducing landlords’ resources for building new homes.

This all amounts to an extensive list of issues and problems for Ms McLean and her boss Michael Gove to correct. It’s unlikely that any changes made in the next few months will have a positive impact before the next general election. But it leaves us back with the original question which the Government has to address – where will the much needed new housing come from?

COUNCILS AND HOUSING ASSOCIATIONS ARE KEEN TO PICK UP THE SLACK AND INCREASE THEIR HOUSEBUILDING RATE, BUT THEY ARE CONSTRAINED BY THE LACK OF CASH AVAILABLE TO SUBSIDISE THE COST OF BUILDING

The Levelling



ne

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Tarmac's Blue Circle product, Masterlay, is the newest product to be added to its '**One of the Family**' range.

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 **ne of the family**

THE CLIMATE CHALLENGE

Addressing a common misconception on heat pump-led networks



Ed Morris of Altecnic tackles a common assumption around heat networks incorporating heat pumps, in terms of whether interface units can be installed to deliver on demand and efficiency.

The assumption is as follows: “It is a heat pump led network therefore the flow temperature is low, and I can’t use instantaneous heat interface units (HIUs) as I won’t get enough direct hot water (DHW) output. So, I will have to utilise DHW stores within the apartment to meet my DHW demand.”

DOES A ‘LOW FLOW’ NETWORK RULE OUT INSTANTANEOUS HIUS?

HIUs that have DHW plate heat exchangers that are specifically designed for low primary side temperatures can give very high DHW outputs and primary return temperatures. Current market leading HIUs can output 44 kW of DHW at a 55°C primary return temperature. CIBSE’s CP1 (2020) gives guidance stating that even three bed apartments, with two bathrooms only require 35 kW of DHW, so the HIUs currently available to engineers are efficient enough to be fitted on numerous networks.

Dropping the primary flow temperature

further, down to 50°C gives an output of 33.5 kW with DHW at 48°C, covering the requirements of most single bathroom apartments. However, should you require more output, some HIUs available have the option for an inline electrical element to be installed and controlled by the HIU. Under most circumstances, heating and standby, the element is not in use. However, the moment there is a DHW demand, the HIU energises the element and boosts the primary temperature by up to 10°C. Using the example earlier in this paragraph, the DHW output increases to a potential 56.5 kW.

As the element is on the primary side of the HIU, then the network delta T is not reduced, in fact it is increased. If the electrical element was on the outlet (secondary) of the HIU or in a cylinder, then this would have a negative effect on the network delta T. As a result, network efficiency would be reduced, losses would increase and the potential for the building to overheat would also increase.

CIBSE’S GUIDANCE STATES THAT EVEN THREE BED APARTMENTS WITH TWO BATHROOMS ONLY REQUIRE 35 KW OF DIRECT HOT WATER



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DHW STORAGE & TEMPERATURE DIFFERENCES

DHW storage will, inevitably, reduce the heat network temperature differential. As soon as the store gets even halfway up to temperature, the temperature difference on the primary will be significantly reduced. Data from existing projects show that delta Ts on DHW storage networks typically operate on average around 10°C or less. The smaller the delta T, the more flow rate required for a given energy output and therefore the greater energy use. High return temperatures also increase the network losses and can lead to buildings overheating.

There are additional downsides to DHW stores. One of the most patents of these being that storing the DHW gives an increased likelihood of Legionella growth. Therefore, the temperature of the DHW store either needs to be kept at, or above, 60°C or regularly cycled to this temperature. This dictates further energy input to achieve 60°C, even though the DHW may only be required at 46 -50°C.

If the network is running at 50°C or 55°C, the only way for the store to be lifted to 60°C is to install an additional immersion heater. However, this immersion heater will need to run far longer than the instantaneous electrical element that is operated by the HIU only when there is a DHW demand.

A single instantaneous HIU will have a higher instantaneous demand compared to a cylinder. However, the time that the HIU is on that demand will be short. Filling a bath may take around eight minutes, but once filled, there is no demand. If you fill the same bath from a cylinder, the instantaneous cylinder load will be smaller but the time that the cylinder will be reheating will be around 30 minutes or more. This fact dictates that the diversity used for an instantaneous system is far greater than that used for a cylinder system. The result is a longer peak demand for a cylinder system. The shorter peak demand from an instantaneous system allows for that additional short peak to be supplied via

a thermal store. The large delta T of the instantaneous system also allows the size of the store to be reduced, saving on plant-room space.

THE FUTURE

Instantaneous HIUs ensure that the whole system is efficient. However, the lower flow temperatures of heat pump networks require careful selection of the HIU to meet the tenants needs. The focus still needs to remain on the design and sizing of the network first. If this is not the focus of an engineer, the network as a whole and the end users will suffer. Engineers should welcome the 'new' heat pump energy source, which will continue to reduce the carbon implication of the electricity that powers them.

Moving forward, engineers need the network to be the most efficient it can be and should continue to reduce the losses by maintaining the widest possible delta T, wherever and whenever they can.

Ed Morris is technical manager at Altecnic

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PROJECT REPORT

Quintain's Wembley hat trick



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“REPTON GARDENS IS THE EPITOME OF ALL THE BEST LESSONS WE HAVE LEARNED FROM THE PREVIOUS BUILDINGS.”
JULIAN TOLLAST, HEAD OF MASTER PLANNING AND DESIGN, QUINTAIN

Repton Gardens, the latest residential phase of Wembley Park, the expansive Build to Rent-led project developed by Quintain and operated by Quintain Living, offers three contemporary apartment blocks linked by landscape to satisfy a range of customer needs. James Parker spoke to the multi-disciplinary developer.

Build to Rent (BTR) specialist developer Quintain and its “lifestyle focused” rental company Quintain Living is dominating play at London’s Wembley Park. It manages a total of 10 distinct housing developments for its customers, with the latest to complete being a three-building scheme called Repton Gardens. In total, this high-profile 85-acre development surrounding Wembley Stadium now contains around 5,000 new dwellings, with a further 3,500 having outline planning permission in the master plan. Once Wembley Park is complete, Quintain will have 6,044 rental homes under management, serving strong demand for rental homes as buying continues to be an elusive dream for many.

The impressive statistics keep coming: Repton Gardens is only a relatively small part of the overall project, providing 396



homes, but offers an array of different layouts to renters (40 in fact), as well as 1,000 m² of ground floor retail space, and a 1,200 m² area earmarked for a new GP surgery. The newly launched development has “outperformed leasing expectations,” says Quintain Living, with a significant proportion being rented pre-completion.

The project is very accessible to the centre of London, being two stops from Baker Street on the Metropolitan Line, and the overall Wembley Park development has already been used by film directors for various location shoots, explains Julian Tollast, head of masterplanning and design at Quintain, adding “We’ve made a film about sustainable travel but on TV at the moment you can spot Wembley Park in adverts and the new series of *Black Mirror* and *Not Going Out*.” Repton Gardens itself includes apartments at discount market rent (29%) part of an affordable housing provision across Wembley Park of a similar percentage.

Quintain has been involved with this project alongside Brent Council for over 20 years, since 2022 in fact, with the initial project being the refurbishment of what is now the OVO Arena Wembley (formerly Wembley Arena). The developer has owned the land since 2002, which

historically was a brownfield mix of former car parks and retail parks.

The early stages of the development were for private sale, and flats were picked up by investors as buy to let properties, some of which remain managed by Quintain. However, when private equity firm Lone Star bought Quintain in 2015, the developer made a strategic move to focus on the BTR sector.

Quintain is now around “three quarters through the consented masterplan for the 85-acre site at Wembley Park,” Tollast tells *Housebuilder and Developer*. Developments are still in the pipeline to the immediate north of the three new buildings at Repton Gardens, as well as an area to the north east of the project site.

The Repton Gardens apartments are chiefly in two tall blocks – Birch House with 209 and Cherry House with 161, and there is also a lower-rise called Aspen House with just 26 apartments. Many are intended for families and sharers, and have been designed to provide for this key demographic in the BTR sector. The mix is a variety of spacious three- and four-bedroom apartments, studios and one- and two-bedroom homes, all in a range of layouts. The cohort who have taken the properties, ranges from single twenty somethings to families with young



“WEMBLEY PARK REALLY FEELS LIKE ONE PLACE, YOU MOVE SEAMLESSLY BETWEEN ONE PART AND THE NEXT.”
MICHAEL FITZGERALD,
PROJECT DIRECTOR,
QUINTAIN

children, through to much older people who have downsized.

Repton Gardens is named after famous 18th century landscape gardener Humphry Repton, who was hired by the Page family in 1792 to landscape their estate, renamed Wembley Park on Repton's advice. The developer has attempted to respect the legacy of his designs by placing a strong emphasis on landscaping, to the benefit of residents, in this project in particular.

The site was previously occupied by one of the buildings left behind by the 1924 British Empire Exhibition held at Wembley Park, which had been demolished, and it had become an overspill car park for major events at the stadium.

PROCUREMENT & SITING

In terms of sequencing, over 2015, 2016 and 2017 the developers “worked our way clockwise around the civic centre of the park,” which was built by Brent Council in 2013 after Quintain sold the central parcel of land to the municipality. The developer shifted its focus then to two buildings on the eastern edge (Alameda and Beton), on Wembley Park Boulevard itself. Julian Tollast says that “there had been a logical sequence to the plots we were building out, and then the focus shifted back to build on the Repton

Gardens plot to complete that north west part of the site.”

He explains that this approach demonstrates the firm's strategy of “incremental growth and providing a sense of place; and that by growing it from the heart of the site up towards Wembley Park tube station, it foreshortened that distance you walk down Olympic Way.” The Repton Gardens site sits one block to the west of this main thoroughfare which sports and entertainment fans use to approach the stadium.

Quintain ran a Request for Proposal (RFP) process to select the architects for Repton Gardens, with the successful practice being Grid. This was followed by a tender process with its framework contractors, as has been the case across the Wembley Park development. Tollast says that the design RFP amounted to a “very short, three week limited design response,” 10 pages maximum, which is a “qualitative assessment first, then the fee.” He says that the developer has been running this approach successfully since 2008.

The developer did change the plot configuration slightly before beginning on Repton Gardens, via a Section 73, which “made it work better” particularly regarding the adjacent BOXPARK food and beverage scheme,



says Tollast. He says they “changed the parameters slightly,” principally around the volumetric aspects and followed up the Section 73 with a reserved matters application.

DESIGN

Tollast says that with a multi-building site “you’re not allowed to have favourite children,” but that Repton Gardens “is the epitome of all the best lessons we have learned from the previous buildings.” He adds “because there were so many buildings finishing so close to each other from 2019 through to 2022, you couldn’t necessarily change what was onsite.”

Michael Fitzgerald, project director at Quintain agrees, saying that as the operator as well as developer, the Quintain team learned a lot from the design, build and operation of the previous nine BTR developments at Wembley Park and this fed into the BTR brief for Repton Gardens. “You’re watching the cost of any defects, and you end up checking and checking again, and we had the lessons learned for Repton Gardens, whereas because of the speed of progress, we were learning at the same time as the others.”

Tollast says that the business has learned that there’s a misconception about BTR, that it’s a short-term endeavour from the developer’s point of view, with an attendant lack of quality. However, he says that “what’s interesting from the design and placemaking point of the view is that it’s had almost completely the opposite effect; with the rental

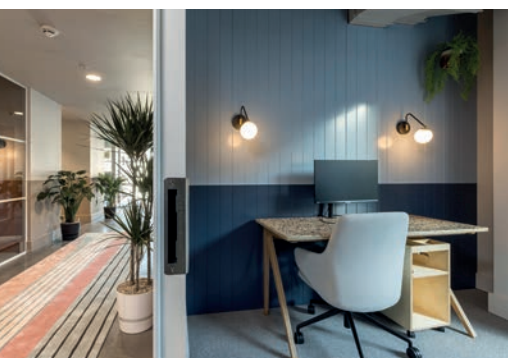
market you have to make sure that the dwellings, social spaces, amenity and public realm are the best-in-class, because somebody can say ‘okay we’ll go and rent somewhere else.’”

Tollast adds: “With the for sale market you could cynically say that as long as you did enough for the person to put their deposit down, you’ve kind of done the job.”

Here, by contrast, Tollast says that a quarter of the 85-acre site is “publicly accessible open space” at ground floor level, and if you look at Wembley Park from a satellite image when it’s finished, “you’d see that a further quarter of it was rooftop gardens and terraces.” He says that this shows that despite the feverish London market, this is not an “exceptionally dense” development, accommodating around 100 dwellings per acre.

Cherry House is where the main entrance to Repton Gardens is located plus 10 work-from-home offices and a meeting room on the first floor – the largest work from home provision yet for Quintain Living residents at Wembley Park. Other amenities include a club room, TV area and bar, and a 1,150 ft² gym overlooking the podium garden. The latter has four covered, hireable BBQ areas, two play areas and a lawn. Cherry House and Birch House also feature roof terraces, including paved areas, artificial grass, sun loungers and seating.

Tollast explains that the main concierge entrance to the development, which leads



to all three buildings on the plot, “was positioned in the north east corner, so that you naturally arrive at it first when approaching from the tube station, and it also fronts onto the main road. Between Repton Gardens and Olympic Way is BOXPARK Wembley, the largest BOXPARK in London, accommodating food and beverage outlets and entertainment. Despite the nearby hustle and bustle however, Tollast asserts that “even on a match day it’s relatively quiet.” As part of the overall masterplan’s section 106 agreement, the developers will be providing a GP surgery on the ground floor of Birch House, meaning its entrance faces the community centre, ‘The Yellow.’

Fitzgerald pays tribute to Tollast’s handle on the overall development as head of masterplanning and design. He emphasises that through Tollast’s vigilant overview of the buildings, public realm and placemaking “Wembley Park really feels like one place, and you move seamlessly between one part and the next – achieving that is not as easy as it looks.”

He gives the example of standardised lighting, signage and wayfinding across the project as ways this is achieved. This is one of the many processes shaping Wembley’s vibrant personality, tying it together neatly and developing a vital sense of place for residents.

Fitzgerald mentions that this is no easy feat, “with numerous projects progressing at pace and project teams working simultaneously, coordinating works and sharing the learnings, is a big undertaking.”

In terms of avoiding homogeneity while providing a unity across the site, Tollast explains the approach via a metaphor – “it’s an architectural aquarium with different ‘tanks’, not a zoo.” The team also charged its designers with 10 key principles, including that “it’s space positive: it’s as much about the spaces between the buildings as the buildings,” and to think about design “from district to doorknob,” i.e. at all scales of how people relate to the buildings, from trees and landscaping down to the quality of the fittings. Also, focusing on the five senses, bearing in mind that “it’s easier to add more stuff in than it is to calm things down a bit.”

The design concept for Repton Gardens, following the attention paid to landscaping overall, has focused on “natural, earthy colours and the use of natural products.” A concept of ‘botanical living’ is taken through the whole development meaning a big focus on bringing the outside in, internal plants improving air quality and giving connection with nature throughout the buildings, as well as externally. With the overall range of measures included,

Quintain Living is claiming these are its “most sustainable homes to date.”

Two of the architects bidding for the scheme both came up with a similar concept, interestingly, which the project ended up adopting. Aspen House is an additional low-rise building “like a little pavilion” on the front of the garden, overlooking the public square to the south. Tollast adds that it “helps the garden feel more protected from the civic centre,” without losing the space’s generosity.

The main residents’ amenity spaces are located at first floor level in the blocks, and therefore look over the garden, plus there are rooftop terraces, providing a further differentiator for residents. Tollast says this means there are social spaces “at the bottom, middle and top of our buildings.” He says it’s not “hairshirt” sustainable architecture, it’s “sustainable for the right reasons.” Along with thermal mass, there’s low carbon concrete, hand-built brick, movement sensors, and the scheme links into the site-wide district heating (gas-fired CHP due to being specified in 2014) and waste recycling systems. Last but not least, the corridors are naturally ventilated with louvres, and the balconies are generally stacked to provide shading to them and other rooms.

As well as many other key disciplines, Quintain took care of the landscaping design. Communal areas and the gardens connecting the buildings have been a key focus, inspired by the legacy of designer Humphry Repton.

In the podium garden for example, the developer created mounded groundworks which allowed for the planting of large trees and shrubs. The tree species in the gardens mirror the buildings’ names (albeit apple trees are included, not aspen!).

APARTMENTS

The split of apartments across the three buildings is 51% one bed, 23% two beds, 12% three beds, 7% four beds and 7% studios.

The Discount Market Rent dwellings are ‘pepper-potted’ through the development, to encourage a tenure-blind feeling at Repton Gardens, as they are in several other Quintain developments. The varied apartment designs in the three buildings comprising Repton Gardens encompass useful features such as ‘half bedrooms’ for guests, studios with separate bedrooms, and study areas designed for working from home. There’s also recessed shelving, breakfast bars, a choice of U-shaped and L-shaped kitchens, and all bathrooms are pods (like all other schemes built by Quintain in Wembley Park).

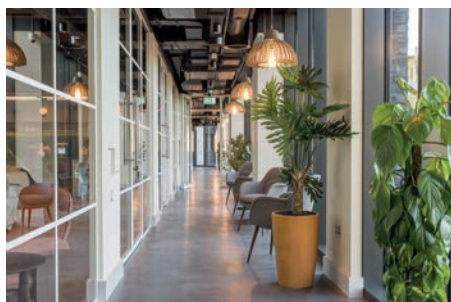


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In terms of lessons learned from other schemes, Tollast explains that they have managed to give the illusion of more space without adding to the height. “Repton Gardens has the same floor-to-floor heights as the other buildings, but everything we have learned about exposed soffits, and floor build-ups, and how to deal with bulkheads and sprinklers has been done so beautifully, that you just feel like there is much more volume in them.”

He continues by saying that the residents’ experience has been enhanced by “scrupulous attention to detail” by the designers, such as around the mechanical, electrical and plumbing systems, “which means that when you open up your hall cupboard, there is a lot of space to store things, it’s not full of mechanical ventilation systems.” Tollast adds that the hotel-style riser design means that heat exchangers do not need to be in the flats themselves; a factor which is also a product of the building being built for renters.

The design offers a different aesthetic generally to the other schemes around the park, such as Alameda, which is “more white ceilings and white plasterboard,” whereas Repton Gardens has ‘industrial’ exposed concrete ceilings in the bedrooms and other parts of the apartments. This helps thermal mass, gives a more spacious feel, and offers an increasingly in-demand look for many urban dwellers. Tollast puts the approach

simply, as offering “different things appeal to different people.”

Flexibility has been thought about – in some of the single room apartments, there’s an extra internal room, which can be used as a dressing room (as in the show flat), or in another configuration it can become a playroom or home working space. In bedrooms, the glazing does not descend to the floor, with the belief that it can compromise interior design and furniture.

Fitzgerald mentions that in addition to standardisation of external lighting to help unify the overall scheme, standardisation has also come into play in other areas such as ICT networking, security, access control and fire safety systems, all based on learnings from other schemes.

CONCLUSION

As well as offering what Quintain Living believes is a new standard of communal, high-quality living in the BTR sector, based around careful design and landscaping, Repton Gardens also offers a fresh proposition. Being able to attend a show or match at Wembley, and have a short walk home afterwards is just one reason in other areas the apartments have proven so popular.

While such a prominent and iconic site might provide its challenges during construction, as the project director Michael Fitzgerald attests, the rewards are substantial. ■

Remagin to drive significant lifecycle and sustainability benefits



On the back of the major news announcement that EOS Framing will be joining forces with Etex Group partners Sigmat and Horizon, under the new Remagin brand – Scott Bibby, Country Manager for UK and Ireland at Etex New Ways, discusses how this move can accelerate sector growth.

Bringing together three major steel framing specialists is not without its challenges but the rewards for past, present and potential customers are immense. These businesses have been established in the sector for a considerable time and have developed leading positions in their respective markets. Each has individual strengths and specialisms, and by combining the 'sum of the parts' we are creating an offsite focused brand that has vast in-house skills to enhance our services to all customers and provide greater synergy across our extensive product portfolio – all based on sustainable light steel framing (LSF).

This move offers assurances to customers through a powerful combination of financial security, comprehensive services and market leading products, delivered by those at the forefront of design, engineering, manufacturing and installation of complete and compliant light steel systems. And this is all backed by

the €3.7 billion turnover Etex Group with its significant investments in innovation, system testing capacity through five global R&D centres and its building materials expertise.

This is an exciting time in the development of not just our own business but the wider offsite construction community. Due to the proven benefits of panelised building systems, things are really taking off and by combining our joint strengths we are confident we can accelerate and maximise sector growth.

CIRCULAR ECONOMY CREDENTIALS

As the industry addresses the challenges inherent to building a more sustainable world, offsite construction and light steel frame can have an important role to play. There is growing pressure on the construction industry to reduce waste and to achieve this we have to move towards resource efficiency. The circular economy is rising up the political and construction agenda. At its simplest, it prioritises the reuse of materials, preventing the over-extraction of natural resources and the amount of usable construction components that end up in landfill.

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Construction can be a complex business but as we evolve more advanced offsite technologies, Remagin can help developers reduce risk and operate with more certainty and confidence. Remagin is building on the solid foundations established by Sigmat, EOS and Horizon and is backed by Etex Group with its significant R&D, testing capacity and materials expertise. We are in a strong position to add significant lifecycle value and sustainability benefits to our customers.

Remagin is well placed to accelerate the scale and impact of offsite construction, for more information go to the website.

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UK Construction Week
BIRMINGHAM
3-5 OCTOBER 2023 | NEC

3 - 5 OCTOBER
NEC, BIRMINGHAM

CONSTRUCTION'S CALL TO ACTION IN BIRMINGHAM



Innovative, inspirational and progressive, UK Construction Week (UKCW) Birmingham returns for its ninth year this autumn, with a 'call to action' for the sector to set its own agenda rather than wait for the Government to respond.

The UK's largest event for the built environment, registration is now live for UKCW Birmingham, which will run from 3 - 5 October. The show will run alongside two co-located shows, Grand Designs Live and Timber Expo, which also celebrates its 10th anniversary this year.

Nathan Garnett, UKCW show director, commented: "Construction is often criticised for being too disparate, lacking collaboration, not addressing its skills crisis, and reverting to protecting the bottom line, being scared of innovation and too often ignoring safety and the environment. UKCW, as the UK's largest event bringing all parts of the industry together, is the place to learn from those shaping this rapidly changing industry. We'll tackle key issues head on – including mental

health, fire safety and the skills gap. If you work in any part of the industry, you cannot afford to not be at UKCW Birmingham. We had a hugely successful UKCW London in May, but in such a fast-paced industry, the Birmingham show will give visitors invaluable insight into the latest trends, legislation, innovation and tech, with many new exhibitors and demonstrations."

The three-day construction show, welcoming over 25,000 visitors, will celebrate culture change in construction and will feature over 6,000 products and services. Over 150 CPD hours during sessions led by 400 thought leaders and keynote speakers including West Midlands Mayor, Andy Street will also be attainable at UKCW Birmingham.

Visitors will also be able to explore sections dedicated to Build, Infrastructure, the Roadmap to Net Zero, Digital Construction and Offsite. The Construction segment, which has already allocated more than 80% of its available slots to the likes of 300 exhibitors including Biffa, Topcon, Containex, SDS,



VISITORS WILL ALSO BE ABLE TO EXPLORE SECTIONS DEDICATED TO BUILD, INFRASTRUCTURE, THE ROADMAP TO NET ZERO, DIGITAL CONSTRUCTION AND OFFSITE

Hanson Plywood, Expediton, Celsa Steel UK and HP Construction Services, is on track to be the most successful one yet.

Officially opened by architect and Channel 4 presenter George Clarke and championed by partners and sponsors such as HP, Northgate, Find It In Birmingham, CIOB, BMF and NFB, the show will feature sessions and seminars led by industry experts across six stages:

- UKCW Main Stage: Used to take on construction industry topics, with a mixture of keynotes, panel debates and case studies from industry leaders.
- Sustainability Hub: The heart of Timber Expo. The hub programme will tackle the issues, layout strategies and case studies to help the sector reach its net zero targets.
- Infrastructure Hub: From digitalisation to improving quality and sustainability, this hub will deliver a three-day programme for those working on infrastructure projects of case studies,

debates, networking opportunities, and keynote speeches on crucial issues.

- Digital Construction Hub: The centrepiece of innovation at UKCW. It will deliver a series of presentations and panel discussions including topics such as Information Management using BIM.
- CPD Hub: A mix of industry relevant CPDs delivered by industry experts, association partners, government departments and exhibitors.
- Culture Change Hub: A focus on improving inclusivity within the built environment, wellbeing and mental health and professional development.

Other key features at UKCW include:

- Future Lab: Featuring ground-breaking and innovative products including the Exoskeleton from exhibitor German Bionic; a wearable device that can make users feel less tired and reduce the risk of strain injuries.
- Robotics Theatre: Sponsored by HP

will showcase all types of construction robotic innovation.

- COBOD 3D concrete printer: Live printing a house.
- UKCW Role Model Awards: Celebrating the unsung heroes of construction, the award ceremony will be taking place on the main stage on 5 October.
- Timber Expo: Celebrating 10 years at UKCW this year, the UK's largest display event for wood and timber presents the future of the sector – from sawmills, timber cladding and mouldings to doors, windows and flooring products.
- Seminar programme: The comprehensive seminar and CPD programme covers the latest Building Regulations, the Building Safety Act and its implications, and advice on retrofit.

Article supplied by UKCW

To register for UKCW Birmingham for free, please scan the QR Code.

You can also follow us on social media:

@UK_CW #UKCW2023



Glidevale Protect turns up the heat with DiscreteHeat

Leading building materials manufacturer Glidevale Protect is continuing to help create energy efficient homes of the future by having its reflective membrane technology used as part of an innovative new heated skirting board system by Manchester based manufacturer DiscreteHeat Co. Ltd, maximising the product's thermal performance.

DiscreteHeat's patented product, ThermaSkirt™, is set to change the way we heat our homes by removing the need for traditional wall-mounted radiators. ThermaSkirt is a compact aluminium skirting board system which is connected to the home's heating system. It then radiates heat evenly and efficiently around a room. The DiscreteHeat system has been developed with both new build and refurbishments in mind and tests have shown that when combined with Glidevale Protect's VC Foil Ultra reflective membrane, its energy efficient benefits are further enhanced.

One of the leading air and vapour control layers (AVCLs) on the market, Protect VC Foil Ultra has a high-quality aluminium foil surface, giving it a superior thermal resistance, which in turn increases the radiated temperature performance of DiscreteHeat's ThermaSkirt. To achieve these results the membrane is installed directly onto the wall substrate with the foil surface facing into the room. DiscreteHeat's skirting board system then fits over the top, using clips to maintain the airspace and enhance radiant heat.

Ethan Wadsworth, sales and marketing



Installation of ThermaSkirt with Protect VC Foil Ultra

director at DiscreteHeat commented: "We're really proud of our ThermaSkirt heated skirting board system and see it as playing a key part in making the UK's homes more energy efficient for the future. When we saw the potential of combining ThermaSkirt with a specialist reflective membrane such as Protect VC Foil Ultra, we immediately began testing and were

impressed with the significant difference it made - increasing temperature levels by at least three degrees centigrade."

More information can be found on the website or email info@glidevaleprotect.com. Follow Glidevale Protect on LinkedIn.

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UKCW BIRMINGHAM
STAND: B187

Stocksigns' trek raises £15,000 for trust



Sign manufacturer **Stocksigns** has recently raised £15,000 for The Children's Trust, thanks to the company's latest annual fundraising challenge. This year's adventure took the team to the mountains of Slovakia where they descended into the gullies and ravines of the Paradise National Park and climbed to the

top of Mount Rysy in the High Tatras. "We are really proud to donate this money to The Children's Trust and would like to thank all of our sponsors for making it possible," commented Danny Adamson, Managing Director at Stocksigns. "It was also fantastic to share the experience with colleagues and customers who we just can't thank enough for joining us on the climb."

01737 774072 www.stocksigns.co.uk

CCF invests in drive to net zero with new tool



CCF is in the process of trialling its comprehensive new carbon reporting system with a panel of key customers who are working on large projects across the country to gather as much data as possible. The new tool will provide information on the carbon emissions relating specifically to the delivery of products to site but

going forwards it will also include the embodied carbon of the products to give insight and transparency to enable decision makers to make tangible carbon savings. Involving CCF's customers in the process is critical to make sure the new reporting tool will be both useful and usable – ensuring it will deliver the results and drive the changes needed so that as the construction industry can hit the net zero targets by 2050.

www.ccf ltd.co.uk

CCF improving efficiency across its vehicle fleet



CCF has upgraded its vehicle fleet to offer a more efficient and reliable service. As part of the company's ongoing commitment to improving sustainability across its business operations, CCF has invested in 70 new fuel-efficient delivery lorries. By increasing capacity from 26 to 32 tonnes, the larger

vehicles will replace the smaller, older trucks within the existing fleet so that more orders can be delivered in fewer journeys. The new vehicles will help reduce both pollution and embodied carbon within the transportation of CCF's extensive product offering, which includes insulation, plasterboard, and ceiling solutions, to construction sites around the country.

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OFFSITE FOUNDATIONS

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- 5 Certified by NHBC Accepts, LABC and Premier Guarantee System Acceptance.

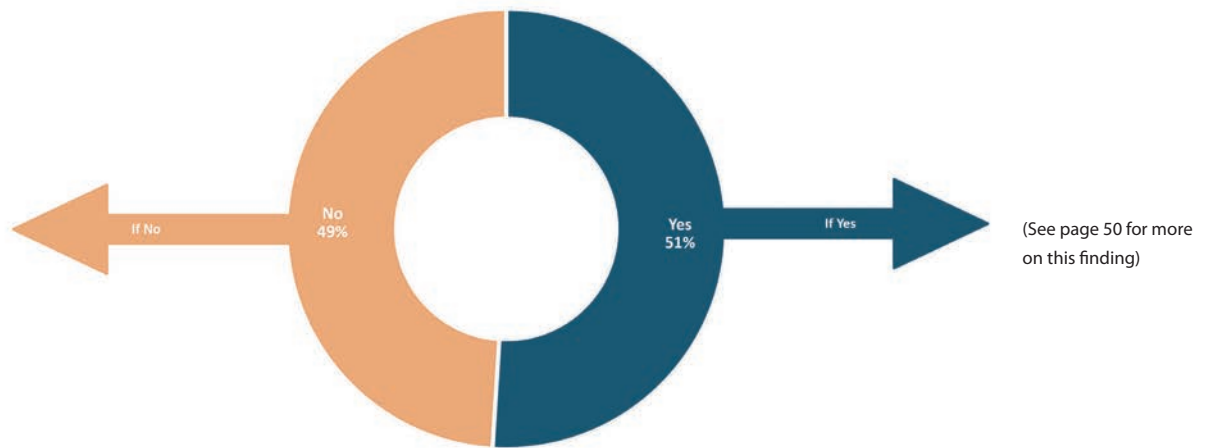
PRE-MANUFACTURED FOUNDATIONS

The RBeam system is classed as a Category 3 Modern Method of Construction (MMC) pre-manufactured component as defined in the MHCLG framework. This is ideally suited for use in low rise residential and commercial building projects, used with a wide range of piled foundation techniques accommodating many different soil types and ground conditions, including ground heave potential.



SOLVING THE HOUSING CRISIS WITH OFFSITE CONSTRUCTION

Have you ever worked on any projects using offsite building techniques?



EXECUTIVE SUMMARY

In the last few years, the need for an increased pace of housebuilding has not diminished.

The Government's 300,000 homes a year target has put been into question – and recently reaffirmed – yet the three challenges Housebuilder & Developer focused on in its first Industry Viewfinder on Modern Methods of Construction (MMC) in 2021 – speed, cost and skills – remain unsolved.

Providing an alternative to conventional building and a potential solution to these issues, MMC centres around the use of offsite construction techniques – ranging from timber frames pieced together on site, to entire homes mass produced in a factory.

The technologies have been hailed by many as efficient in terms of both time and build cost, enabling developers to reduce construction times by up to half, reduce risks, improve quality, minimise disruption, and reduce the performance gap between design and as-built performance.

As highlighted in our first white paper, the majority of our respondents believe the advantages of MMC give it the

potential to address all three of these key challenges (speeding up the pace of building, providing a more attractive working environment, and reducing costs).

Despite this, in 2021 40% of our respondents reported they had never worked with any MMC, and 37% never anticipated doing so in the future – with a range of concerns preventing them from adopting the methods, from initial costs to a lack of Government support.

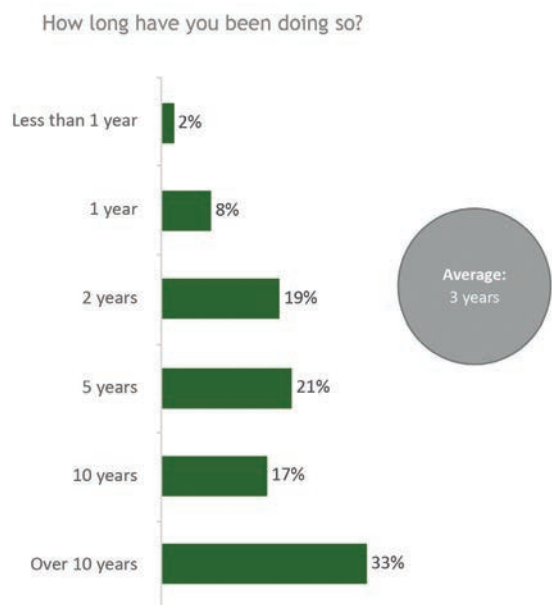
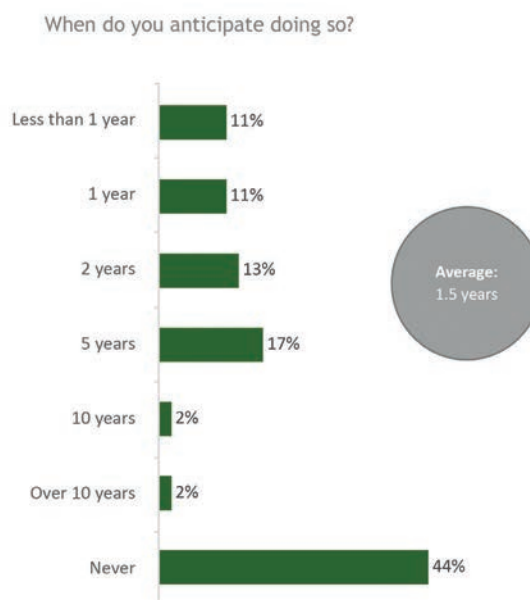
Two years later, we have again sought the views of housebuilders and developers about MMC to see how their perceptions have changed. Are the technologies being adopted more widely? Or are they still being ignored by a third of the industry?

In this white paper, Housebuilder & Developer reveals that the same significant barriers are still prevalent – with those surveyed having utilised MMC even less than before (-9% compared with the 2021 study), and those who have being less likely to do so in the near future (+6% YOY) – and provides data that go some way to explaining this.

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INTRODUCTION

(Answered **Yes**)(Answered **No**)

UPTAKE

According to Make UK (formerly the Engineering Employers' Federation), around £1bn of private research has been invested in MMC since the publication of Mark Farmer's notorious 2016 Modernise or Die report, in which he argued that the UK's construction industry faced 'inexorable decline' unless longstanding problems are addressed, with MMC proposed as a 'significant solution' to tackle this.

This has not gone altogether unnoticed – with the Government providing a boost to the sector, requiring a minimum of 25% of their affordable homes programme to be constructed using MMC. The criteria applied for homes to be classed as MMC is that they have a Pre-Manufactured Value (PMV) score of 55% or more.

Despite this, our research revealed that it is still far from a staple for the average housebuilder, with this year's respondents reporting even less experience with MMC than our 2021 survey respondents.

Overall, when asked if our respondents had ever used offsite building techniques, just over half had (51%), down from (60%) in the previous study. Of those who haven't, 11% (+3%) anticipate doing so within the next year, 24% (-8%) in one to two years, 21% (+3%) in five years, 17% (+11%) in 10 years, and 33% (+27%) on 2021 study) anticipate doing so in over 10 years.

Perhaps even more surprisingly than this back-sliding, while some responses went into the millions of pounds, when asked how much money they had spent on research and

development for MMC, the majority of respondents (60%) had spent absolutely no money to date on offsite.

PERCEPTION

Despite this decrease in the utilisation of offsite construction techniques, and lack of investment in them, our data shows that the majority believe that all the stakeholders our respondents work with are increasingly receptive to them.

When asked how much they believe these stakeholders' views of offsite building techniques have changed in the last five years, 7% believed housing associations and social housing providers views had dramatically improved, 66% said it had improved, 23% not changed at all, 4% worsened, and none believing they had dramatically worsened.

Similarly, 5% believed other builders and developers' views had dramatically improved, 69% improved, 22% not changed at all; only 2% said it had worsened, and 1% dramatically worsened.

Lastly, 2% believed homeowners and buyers' views had dramatically improved, 62% improved, 25% had not changed at all, while 8% said it had worsened, and 3% dramatically worsened.

With an overall improvement of perceptions but a lack of adoption, this begs the question: Do housebuilders and developers not believe the technology has enough benefits for the sector to make the change to MMC? And if this is not the case, then what are the key barriers?

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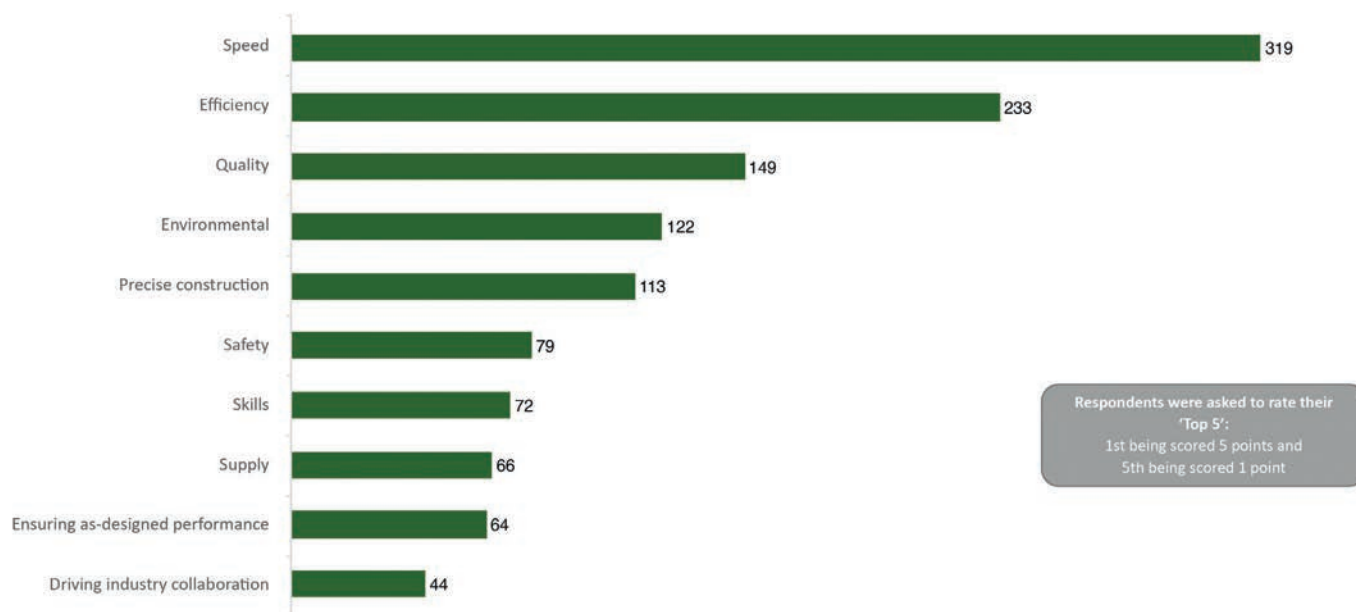


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PROBLEM ASSESSMENT

What are the biggest benefits of building offsite?



WHY IS MMC NECESSARY?

When it came to our respondents' belief that modular technologies have the potential to aid some of the key issues the sector faces at present, the response was fairly consistent with our previous (2021) study – the vast majority believing the technologies can either positively or very positively affect all the challenges listed.

The introduction of Modern Methods of Construction was seen by 21% of the survey respondents as having the potential to 'very positively' affect housing supply, for instance, down just 1% year on year, and the majority (67%, -1% on the 2021 study) believed the technology could positively affect it. This was followed by 10% (+2%) believing the issue could be negatively affected, and 3%, (+0%) 'very negatively.'

Much the same as housing supply, when it came to the skills crisis, 19% (up 3% on 2021 study) believed MMC could very positively affect the issue, followed by 65% (+2%) positive, 15% (-3%) negative and 1% (+2%) very negatively.

Next, 16%, (+3% on 2021's Industry Viewfinder survey) said they believed the technology could very positively affect housebuilding costs, 66% (-1%) positively, 18% (-1%) negatively,

and 1% (+0%) very negatively.

This year, we also asked if our respondents believed MMC could help the construction industry tackle another major hurdle facing the sector – reaching net zero targets. As with the other issues, the majority (65%) believe it could help, with only 11% saying it wouldn't help towards net zero – though almost a quarter (24%) were unsure.

When asked to rate the biggest benefits of modular technologies overall, the results were also generally in line with our previous 2021 study.

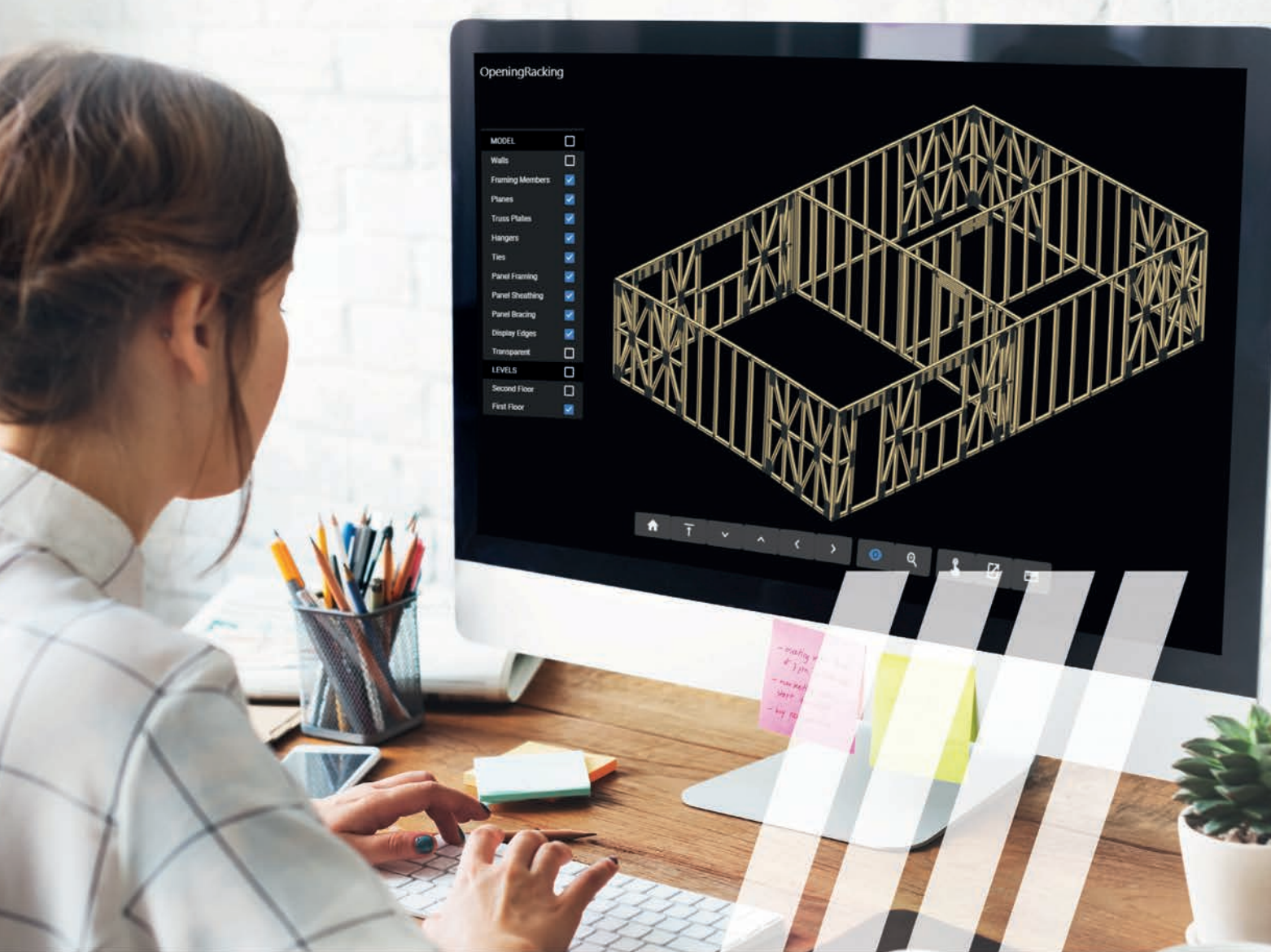
Speed was cited as the biggest benefit of building offsite again this time around, followed once again by efficiency, then quality, environmental impact, precision of construction, safety and skills.

The least popular options appeared in a slightly different order – with supply listed next by this year's respondents, then ensuring as designed performance, and driving industry collaboration last (our 2021 respondents' order of preference was firstly as-designed performance, then supply, and finally industry collaboration).

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BARRIERS TO ADOPTION

With this positive understanding of the benefits of MMC, consistent with the previous year's, the natural question remains: What is stopping housebuilders from adopting these technologies?

One of the most prominent disparities compared with the 2021 data – and arguably the key barrier for many housebuilders – was the perception around the costs involved in moving to offsite construction methods.

While in the 2021 study 71% of our respondents believed they could save money building homes offsite, just 24% said so this year, with 43% saying that offsite methods wouldn't cost them any more or less than their current methods and 34% believing that building homes offsite would cost them more money.

Following this, when asked what they perceived to be the biggest barriers to building offsite, initial cost was once again front and centre.

While buyers' perceptions of modular homes has seen improvement in this year's figures set against 2021, somewhat confusingly when compared to previous answers, buyers' lack of confidence once again came as the second most common barrier to adoption – suggesting their perceptions have improved, but perhaps not enough.

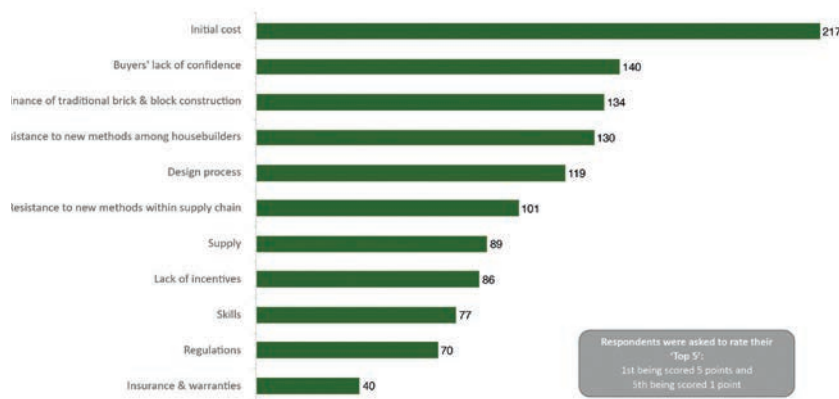
This year, the remaining barriers listed by our respondents, in descending order of popularity, were the dominance of traditional brick and block construction – a building method still particularly strongly favoured by buyers in the UK – then resistance to new methods among housebuilders, the design process, resistance to new methods within the supply chain, supply itself, a lack of incentives, skills, regulations, and finally insurance and warranties.

Another barrier presented by many in our 2021 research was a lack of Government support available to encourage the uptake of modern methods of construction, with 63% believing the support offered to be insufficient. This feeling has grown even stronger among this year's respondents, with 85% experiencing a lack of Government support on this issue.

One of the 2021 survey's most prominent barriers – and one that is often argued as being prohibitively expensive for smaller builders in particular – is the investment required for a factory to build homes. Somewhat more of interest to this year's respondents, just less than half (48%) said they would never consider investing in a factory to build homes, down from 71%. While just 8% (-4% on 2021) reported that they already own a factory to build homes, 44% (+28%) would consider owning or leasing a factory to build homes in the future – meaning just over half of respondents this year are now considering it, or already do.

The barriers for smaller builders don't end there however, with our data indicating smaller builders can find it harder to adopt offsite construction technologies. 72% of respondents believed that the size of a housebuilder or developer influences their ability to build offsite.

What would you say are the biggest barriers to building offsite?



CONCLUSION

Looking back over the two years that have passed since we last researched opinions of offsite among housebuilders, progress has been made towards the adoption of modern building methods.

Stakeholders are increasingly interested in and receptive to the technologies, with all three stakeholder categories viewing them more positively, and our survey confirms a continued, widespread appreciation of the benefits of adopting MMC.

Despite this progress, there has also been some regression since 2021. This year's respondents use MMC even less than before, and a large number have invested zero in R&D for the technologies to date.

It appears that, for most of our respondents at least, MMC

is still considered too expensive, and not yet something they feel comfortable with can invest in – despite their understanding of its benefits.

As such, if MMC is to be adopted by the wider industry – and by smaller builders in particular – it is this perception (and arguably reality) of the costs that must improve, alongside further support from the Government, and perhaps the chance to experience real life examples of how all builders can achieve the change without breaking the bank.

Modern methods of construction have the potential to benefit so much in our industry, but it appears that for now, the sector will continue with business as usual for some time yet.

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The Wraptite external air barrier system from A. Proctor Group, selected as part of the redesign and extension of a residential property on the Essex coast, will improve energy efficiency and protection from the elements. Designed by AFT Design architects, the works comprise a significant conversation project. The existing detached residential dwelling on the clifftop at Frinton on Sea was partly demolished and extended with large attractive single-storey extensions constructed to the rear elevation and roof level. Both extensions comprise a light gauge steel LGS panelised system, including a sheathing board and Wraptite installed by Nexus Modular. In addition, a proprietary Wetherby rendered cladding system will subsequently cover the LGS panelised system. Bill Attwell, Director of Nexus Modular, explains why Wraptite, the only self-adhering vapour permeable air barrier certified by the BBA, was selected: "We chose Wraptite for the breather membrane because of its strength and durability. In addition, the self-adhesive fixing of Wraptite, rather than the traditional staples and mechanical fixing, assisted with the durability in the high wind conditions prevalent on the cliff-side location. The self-adhesive application of Wraptite simplifies the installation and provides a totally durable solution."

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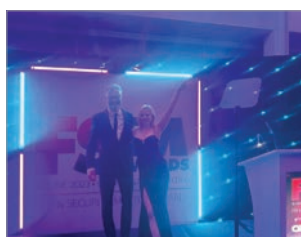


Phantom Screens is one of the UK's manufacturers of solar, insect, and privacy screens. The go-to business for architects and builders with large glazed areas or large glass doors in mind, Phantom has been helping building occupants control heat build, glare and insect ingress around the world for more

than thirty years. Automated solar screens can help developers comply with the Part O mitigation requirements of building regulations when fitted externally. They are a robust, four-sided zipped product, strong enough to withstand wind and showers, and can be manufactured in a variety of performance fabrics with RAL-matched metalwork.

01778 560070 phantom-screens.co.uk

Sealmaster saleswoman scoops award



The Cambridge based family business, **Sealmaster**, is proud to share that their Sales & Marketing Director has been commended for Fire Industry Woman of the Year 2023, at the Fire Safety Matters awards. The glitzy awards show at Coventry Arena was headlined by comedian Hugh Dennis. Miss Malcolm-Brown was overwhelmed with the

prize, saying: "I was truly honoured to receive the award and cried when I got my certificate! In such a male dominated industry it's fun being a young woman able to proudly represent my family and work."

01223 832851 www.sealmaster.co.uk

Neaco supplies total solution



Neaco has supplied an extensive specification of modular walk-on balconies and sun terrace balustrade at Broadwater Road, a prestigious development of luxury apartments. The project was built by main contractor, Total Construction Ltd. The stylish contemporary design of the three-storey

complex includes a predominantly glazed facade maximising the use of natural light to one elevation. Neaco's modular systems are independently tested to confirm full compliance with all relevant building regulations including a Euroclass A1 or A2 fire safety rating required for external wall elements on buildings above 18 m in height. The products are designed for quick installation, enabling contractors to minimise time spent on site.

01653 695 721 neaco.co.uk

New generation side hinged doors



One of Britain's leading garage door manufacturers, **Garador**, has introduced a new sophisticated side-hinged garage door design that lifts this easy garage entrance style right into the future. These new precision engineered garage doors feature a number of exciting new design ideas to enhance usability and performance, including extra security and weatherproofing. These new side-hinged garage doors have been created for busy

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FIRESAFE

Titon vent range grows to meet market demand



Titon's recent investment in new tooling and assembly machinery is now coming to fruition with a wider choice of options in its mainline plastic vent ranges.

Changes in customer demand since the revision to the Building Regulations last year have meant the need for a broader range of colours in both ventilators and external canopies. Window and door profiles are now offered in a standard palette of colours, so

ventilator manufacturers are expected to keep the majority of these in stock to cope with demand and shorter lead times. Titon's newest machinery will enable more flexibility in replenishing those stocks and bring efficiencies to production.

In addition three plastic vent sizes, 2000mm2EA, 4000mm2EA and 5000mm2EA mean most applications can be covered in England, Wales, Scotland and Northern Ireland,

with a choice of grilles for use in overhead sections or canopies for use externally.

The increase in demand following on from the revision to the Ventilation Regulations proved difficult for vent manufacturers, fabricators and specifiers last year but Titon is in a great position to supply according to demand with stock on the shelf in the majority of options.

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OPEN & BROKEN-PLAN LIVING: MEETING THE EVOLVING NEEDS OF HOMEOWNERS

Victoria Brocklesby of Origin explores the reasons behind the shift to the appeal of open living plans, and how housebuilders can use internal glazing to achieve 'broken-plan' floorplans in new builds.

The global pandemic and the rise of remote working have led to a significant change in homeowners' priorities when it comes to the layout and functionality of their living spaces. Popularised in the 1970s, open living plans once favoured for their sense of spaciousness and connectivity, are now being re-evaluated. Instead, homeowners are increasingly prioritising broken-plan living areas that offer a balance between privacy and a sense of space.

THE BENEFITS OF OPEN LIVING PLANS

Open living plans became popular for their ability to create a sense of spaciousness and connectivity within a home. They offer an open flow between different areas of a property, allowing natural light to permeate throughout the space and facilitate better social interaction. The seamless transition between the kitchen, dining, and living areas can also make entertaining guests or keeping an eye on children easier. Plus, open layouts provide flexibility, enabling homeowners to adapt the space and the configuration of furniture to their needs. Over time, open living plans established themselves as a major architectural trend, synonymous with modernity and sophistication.

CHANGING PRIORITIES IN THE POST-PANDEMIC ERA

However, the global pandemic and the increased prevalence of remote working have caused a shift in homeowners' needs and priorities. As families spend more time at home, the demand for privacy, individual space, and the ability to work or study without interruption has



become paramount. Homeowners sought a balance between the connectedness fostered by open living plans and the need for dedicated zones for work, relaxation, and leisure activities. Broken-plan living areas emerged as a response to these changing demands, providing a solution that offers improved functionality for a property.

CREATING ZONED SPACES WITH INTERNAL GLAZING DOORS

Broken-plan living is not without its drawbacks. Breaking a living space up can run the risk of creating dark, cramped rooms that lack natural light. Internal glazing offers a solution to this challenge, offering housebuilders the opportunity to create distinct zones for work, relaxation, and entertaining while maximising the natural light that flows throughout the home.

Internal glazing doors can help strike the perfect balance between connectivity and privacy in broken-plan living areas. Homeowners can enjoy the benefits of

open spaces by opening up the doors, while having the option to create separate rooms as needed. Glazed doors can also be specified in various configurations, helping suit the desired level of flexibility and aesthetic of a home. In addition, on top of clear glass, internal glazed doors can be specified with frosted or reeded glass for added privacy, increasing its usage across offices, utility rooms, or bathrooms.

ENHANCING AESTHETICS

Utilising internal glazing not only serves a functional purpose, but can also act as a key design feature in a home. Opting for customisable doors will allow housebuilders to choose from a wide range of designs, finishes, and colour options to match various interior styles and create a cohesive look throughout the living spaces. The choice of materials, such as sleek aluminium frames, can complement the overall design scheme.

IN CONCLUSION

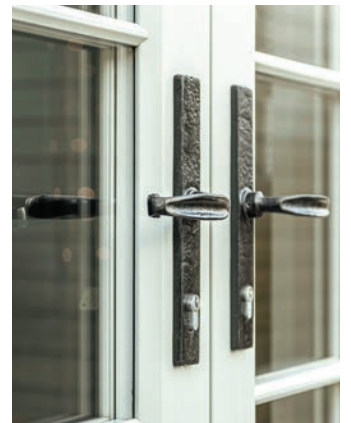
As housebuilders, it is vital to stay abreast of the evolving preferences and demands of homeowners, especially as the way modern families live and work are changing significantly. The rise of broken-plan living areas are only set to grow in popularity.

With careful selection and customisation of internal glazing doors, housebuilders can create functional, aesthetically pleasing living environments that cater to the evolving needs of homeowners without compromising on natural light.

Victoria Brocklesby is COO at Origin

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TRIPLE VS VACUUM GLAZING

The Future Buildings Standard means vacuum glass is being considered as an alternative to triple glazing – George Barnsdale's Tom Wright looks at the options.

The Future Buildings Standard is looming over the horizon in 2025 and is likely to mean a big increase in the use of triple glazing to meet the lower U-values. However, specifiers are starting to consider vacuum glass as an alternative but which is better? Well, it depends.

The Government has outlined its plans to deliver “zero carbon ready” buildings via the Future Buildings Standard. It aims to ensure that no new buildings from 2025 will require further retrofitting, with an uplift in energy efficiency standards, improved ventilation and requirements to mitigate overheating in residential buildings. A start was made on this last year with the changes to Building Regs (Parts F, L and O).

Following an industry consultation, a Notional Building Specification has been developed which states that window U-values will need to be 0.8 W/m².K down from 1.2 W/m².K currently. Doors will need to be 1.0 W/m².K from 1.2 W/m².K (where they are more than 60% glazed).

This is likely to lead to triple glazing becoming the norm in most windows for new build or retrofit projects that want to achieve the highest performance.

Up to now, many of our clients have opted for triple glazing in areas where they require high acoustic performance, with this comes much better thermal performance, saving money on fuel bills.

The advantages of triple glazing are firstly its excellent thermal performance, in order to meet the new Future Homes Standard, meaning it will save money on heating. It also has great acoustic performance – ideal for blocking out noisy roads, aircraft noise etc, better security, having thicker units that are harder to break, and it can help to reduce condensation.

WHAT ARE THE DISADVANTAGES OF TRIPLE GLAZING?

Triple costs more than double glazing, but usually not as much as vacuum glazing. Also, the windows end up heavy which means they require chunkier frames and stronger fixings, all of which increase the price further.

Aesthetically, some customers dislike the look of the triple glazed windows because



they aren't as sleek as their single or double glazed counterparts.

Lastly, because triple glazing units limit the amount of heat from the sun, they limit thermal gain. Harnessing solar energy is something homeowners have done for centuries, and this is harder with triple glazed units.

WHAT IS VACUUM GLAZING?

Vacuum glazing manufacturing takes two pieces of glass with a tiny gap (0.1 mm, in one example) and removes the air in order to create a vacuum.

The units used to have unsightly plugs where the air was extracted, but the latest technology means this is no longer the case. They can be ultra thin, from as little as 7.7 mm compared to 44 mm for triple glazing.

THE BENEFITS OF VACUUM GLAZING

Vacuum glazing is three to four times thinner than triple glazing, and looks more like single glazing. It has the same thermal performance as triple glazing, for example 0.7 W/m².K, which is better than the target the Government is aiming for in the Future Homes Standard.

Vacuum glazing also lasts longer – because it doesn't have gas between the panes which can leak over time. The units

provide better solar gain – allowing more sun heat into the room and thereby helping reduce energy bills, and are also much lighter than triple glazing.

In addition, it's been shown that 15% more light is allowed into the room compared with triple glazing. Vacuum glazing being much lighter means environmental savings on transport and less product used, plus as they last longer there is a lower replacement requirement.

Vacuum glazing is designed to provide great acoustic performance, and is thought to be better aesthetically – especially for historic properties, listed properties and modern contemporary builds that want to avoid heavy frames and fixings. Lastly, it's designed to be easier to install.

WHAT ARE THE DISADVANTAGES?

Typically vacuum glazing is the most expensive option compared with double and triple glazing; this is thought to be due to there being no UK manufacturers making it, and the inherent cost of the materials; some use silver for example.

Also, it has low impact resistance – where micro pillars are used it can put high stress on the glass. It can cost up to 60% more than double glazing and around 35% more than triple glazing (although prices may vary depending on size and spec).

SO WHICH SHOULD BUILDERS AND ARCHITECTS CHOOSE FOR 2025?

Inevitably, it will end up coming down to price in most cases. We predict that most people will opt for triple glazing unless something drastic happens to the price of vacuum glazing, which may happen as the product becomes more popular and their production efficiencies improve. However, for anyone looking to balance compliance with the new regulations with heritage detailing, vacuum glass is the option that makes this possible.

We are getting more and more enquiries about vacuum glass from architects and specifiers who like it for its performance and great aesthetic qualities, however often value engineering means they have to fall back on triple glazing.

Tom Wright is managing director at George Barnsdale

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Hörmann garage and entrance doors selected for exclusive Lichfield development

Set in an idyllic rural location near Lichfield, Packington Hall is a Grade II listed manor house which has been lovingly restored and converted into luxury apartments, with the surrounding grounds being redeveloped to provide an impressive development of 22 new homes. A total of 45 fully automated Hörmann M-ribbed Silkgrain sectional garage doors have been installed throughout the development by Birmingham based Doorfit, together with high performance Hörmann steel entrance doors. The Hörmann LPU42 sectional garage doors provide clean lines and a sophisticated, high-quality aesthetic. Their double-skinned construction provides good thermal insulation, a particularly important aspect for the integrated garages in the over-garage apartments. All the garage doors have been supplied in Anthracite Grey (RAL 7016), with a smooth Silkgrain surface providing a hardwearing, easy to clean and modern finish. With security in mind Hörmann automated sectional garage doors are supplied with Secured by Design as standard.

01530 516868 www.hormann.co.uk/home-owners-and-renovators



New Duragrain Décor colours

Hörmann have introduced five new Duragrain Décor colours to their LPU 42 L-ribbed sectional garage door range which provide a perfect match to their ThermoSafe Decoral aluminium entrance doors. Five modern finishes are available – Cement, Rusty Pantina, Wild Oak, Barnwood and Barnwood Grey. Hörmann's sectional doors offer a winning combination of high-quality materials, safe operation, and good thermal insulation properties. For added peace of mind all automated Hörmann sectional doors are supplied with Secured by Design as standard (subject to fitting criteria and door style selection). The five new colours are available with the Duragrain finish which is extremely hardwearing and scratch resistant. An innovative, UV-resistant digital print is applied onto the primed sections of the door with the Duragrain protective coating added to safeguard against environmental effects and keep the door looking beautiful for years to come.

01530 516868 hormann.co.uk

The Astraseal logo, featuring the brand name in a bold, sans-serif font. 'Astra' is in red and 'seal' is in black with a white outline.

Introducing the brand new Rio flush fit door range.

The latest addition to REHAU's Rio Flush fit range comes the introduction of the Rio flush fit door system. This new door innovatively uses Rehau's deep bottom rail section, which was developed to complement the original window system, as a flush door sash. Available as a single open-out door and French doors. Both designed to provide a consistent aesthetic to homeowners wanting matching window and doors.



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This brand new door range with its appealing bespoke look, also provides the durability, outstanding energy efficiency and security benefits which is already associated with the Rio flush fit window frames. Get in touch today to find out more.

Sika launches new Building Finishing Training Centre in Scotland

Leading building chemicals manufacturer Sika has pledged further investment in its customer service offering with the launch of a new dedicated training centre at its plant in Wishaw, North Lanarkshire.

The Wishaw site, which underwent redevelopment in 2022, is one of Sika's four UK manufacturing facilities alongside Welwyn Garden City, Leeds, and Preston. Here, Sika produces an extensive range of render and Building Finishing products including mineral and lime renders, topcoats, pointing mortars and External Wall Insulation. The new training facility has been created to offer a combination of both classroom-based and practical product training from Sika industry experts and is available to applicators, distributors, architects, and contractors. Offering much more than just specialist product training, the new facility will also provide opportunity to support and showcase best practice and help raise the bar for setting industry standards.

Tom Forsyth, General Manager at Sika Ltd, officially opened the Training Centre on Tuesday 18th April, cutting the ribbon in front of over 30 Building Finishing customers and 20 representatives from the Sika global team. This event showcased the training centre's outstanding facilities, highlighting the progression made within the business and the possibilities available for customers.



Commenting, Matt Allen, Head of Sales for Building Finishing at Sika said: "Wishaw is our newest manufacturing facility, and the launch of the new Training Centre is a key part of our ongoing development plans. We want our customers to be able to get a real feel for our Building Finishing and render solutions, which is why we are providing in-depth and hands-on training at the same site where these products are made."

"We are committed to supporting our customers at every stage of their project, from

the initial specification of the products to their installation on site. By providing technical expertise alongside high-performance products, offering training at our new dedicated facility allows us to hear first-hand the requirements our customers have and identify the solutions they need."

Sika is offering its dedicated training sessions to customers across the UK.

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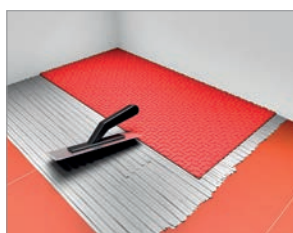
Launch of Consort Connect app



Consort Claudgen have launched Consort Connect app which allows users to have complete control over their heating remotely via their smartphone or tablet. The app is free and downloadable from Google Play or Apple Store. It can control Consort's Wi-Fi enabled heaters and SL heaters connected to an SLPBWIFI wireless controller. Features a 7-day timer with 24 heating periods per day, lock function, open window tracking and response capability, and custom automations. Also, the SLPBWIFI and Consort 'MWIFI' heater models have a self-learning control ability utilising occupancy and temperature sensors.

01646 692172 www.consortepl.com

Warmup Plc launch updated system



Warmup are proud announce a new update to their renowned DCM-PRO Heated Decoupling System. DCM-PRO is a popular electric underfloor heating solution with installers around the world due to its innovative anti-fracture protection and ease of installation. To provide even greater versatility, DCM-PRO has been

redeveloped with an optimised castellation design and two different membrane options: the classic Peel and Stick, featuring a self-adhesive backing, and a new fleece-backed option for use with traditional adhesives.

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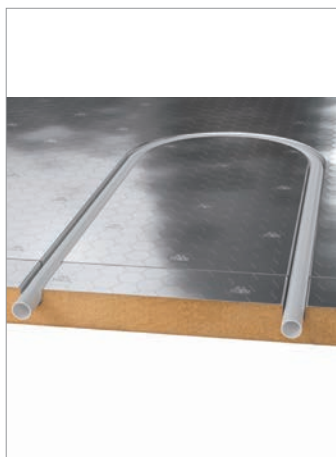
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Altecnic announce the launch of the CALEFFI XS® magnetic filter

Altecnic have released a new under boiler magnetic filter, the CALEFFI XS®. The CALEFFI XS® is a compact and versatile magnetic filter that is designed to protect heating and cooling systems from the harmful effects of impurities. With a filtration system that uses a mesh filter, a neodymium magnet, and a collection chamber, the CALEFFI XS® helps to remove impurities from systems. The mesh filter captures large particles, such as dirt and sand, while the magnet attracts and traps metal particles. The collection chamber captures the heaviest particles, such as rust and scale. With the installer in mind, the CALEFFI XS® is easy to install and maintain. It can be installed underneath any type of boiler, and the transparent glass windows make it easy to see when the filter needs to be cleaned. The internal isolation valve also ensures that only water in the collection chamber is drained before cleaning the mesh, for quick and easy servicing. Gary Perry, Managing Director at Altecnic, commented: "With homes being stretched for space, creating solutions that are compact whilst still being able to effectively protect the system is important. The CALEFFI XS® provides a compact, versatile, and easy to install and maintain solution for installers and homeowners. It is the perfect choice for keeping domestic systems running smoothly and efficiently."

sales@altecnic.co.uk www.altecnic.co.uk



OMNIE adds AL HEX heat diffuser technology to UFH systems

OMNIE will be incorporating the advanced AL HEX aluminium diffuser technology on all its foiled underfloor heating systems, as standard, with immediate effect. The patented AL HEX foil, with its trademark hexagonal pattern, increases the in-channel foiled surface area that is in contact with the warm water pipe. The result is greater heat output, faster heat transfer and a more even heat distribution across a floor area, plus it avoids the risk of damage due to heat 'striping'. Striping is caused when heat in the warm water pipe doesn't diffuse into the floor panel effectively and, instead, creates hot spots and hot lines on the floor surface finish. Prolonged exposure to striping can damage both the floor finish and the subfloor, particularly if the installer raises the temperature of the water to try and improve the diffusion.

"AL HEX is a real step forward for underfloor heating particularly when the industry is moving away from gas boilers and towards renewable heat sources," says Brendan Hourican, OMNIE's Managing Director. "Because it is so efficient at transferring heat, AL HEX works very well with lower water temperatures. This means it improves the performance of the underfloor heating."

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Meeting the challenge of water scarcity

If our water usage patterns don't change, the UK will have an ongoing water deficit of 4,000 Megalitres per day by 2050. Reductions in leakage and domestic consumption are the two primary strands of water conservation targeted by Defra and the water companies.

Some areas of England are already restricting future development unless 'water neutrality' can be demonstrated. This requires both existing and new properties to reduce per capita consumption (PCC) to the extent that overall water usage levels do not increase.

REDUCE LEAKS, DESIGN OUT JOINTS ON PIPES AND PREPARE FOR SMARTER METERS

Recent research by Thames Water showed that 8% of households show continuous flow on a smart meter, indicating an undetected leak. This means that up to 25% of water supplied to domestic properties is wasted as leakage.

This leakage can be due to old and corroded lead supply pipes, but the majority of leaks originate from joints in the supply pipe. The House Building Federation (HBF) and Water UK have since 2014 issued best practice guidelines. Of the 5 principles, 4 relate to minimising use and leakage.

Surface mounted meter housings can be used in traditional building projects and are an ideal solution for modern methods of construction. In this case the meter housing can be pre-installed along with all the internal plumbing systems, and then connected to the mains supply via



and continuous, uninterrupted length of pipe. Meeting all the HBFs Best Practice Guidelines.

An early adopter of the surface mounted meter housing is Portsmouth Water. Bob Taylor, CEO Portsmouth Water explained their philosophy, 'Portsmouth Water's policy of having a single joint free service pipe from mains connection right the way through to the wall mounted boundary box has certainly improved confidence around the longer-term quality of these new assets from a leakage perspective. This policy is also helpful in the context of reducing customer side leakage and emerging knowledge in this area is showing that this is a bigger challenge than our previous understanding indicated.'

Steve Leigh, Managing Director Groundbreaker, and developer of the wall mounted boundary box has over 40 years' experience in the Water Industry. 'We've been putting pipes in holes in the ground to protect them from frost for decades', he explained. 'Although it works, today's new materials

allow for a much better solution. Keeping pipes on the surface reduces the risk of leaks developing and allows for easy repair and maintenance. It's just a much better method of working.'

REDUCE USAGE, A FIT AND FORGET SOLUTION

'Over supply' of water, i.e. water flow rates that are higher than required to provide an adequate supply, results in waste of water. Running taps when brushing teeth, showering, or rinsing cups uses more water than necessary.

Approximately 40% of domestic water usage is from bathroom and kitchen taps and showers. 'Eco' or water saving shower heads are designed to restrict the water flow to a single outlet are highly effective but fittings these come at a price, especially larger properties with multiple bathrooms.

The alternative is whole site flow reduction. Fitting a device such as Groundbreaker's NRv2 LoFlo®, at the meter regulates the level of flow entering customer premises – regardless of network pressure. As the flow of water into the premises is limited, then the amount used in 'time controlled' activities is also limited – but without providing a degradation of service. More importantly not requiring any intervention or behavioural change on the part of the customer, so leading to 'natural' reduction in consumption.

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ROCKWOOL® launches new SoundPro Guide



ROCKWOOL® has launched ROCKWOOL SoundPro. The specialist guide combines technical data, product information and the latest regulatory advice in one place, aiding the specification of stone wool solutions for settings where sound

insulation is key. ROCKWOOL SoundPro outlines the importance and principles of good acoustic design and how to effectively enhance the acoustic capabilities of building projects. As noise pollution is now regarded as a public health problem, the need for effective acoustic insulation in our buildings is more prevalent than ever. As such, ROCKWOOL SoundPro includes various strategies and functions that can reduce the amount of unwanted noise transfer through walls, floors or roofs.

01656 862 621 rockwool.com/uk/soundpro

ROCKWOOL insulates new homes in Dublin



Hugh McGreevy takes pride in delivering energy efficient homes, constructing to Building Energy Rating (BER) A rating, and to a quality that stands the test of time. ROCKWOOL was invited to present the benefits of NyRock technology, and how the latest product, NyRock Cavity

Slab 032 could help deliver the required fire and thermal performance. "ROCKWOOL was our first choice for non-combustible insulation due to their reputation in the market and our experience with their stone wool products on previous projects," said Hugh McGreevy, Director of the company. "NyRock Cavity Slab 032 has enabled us to achieve the same U-values using less material, which was an additional bonus."

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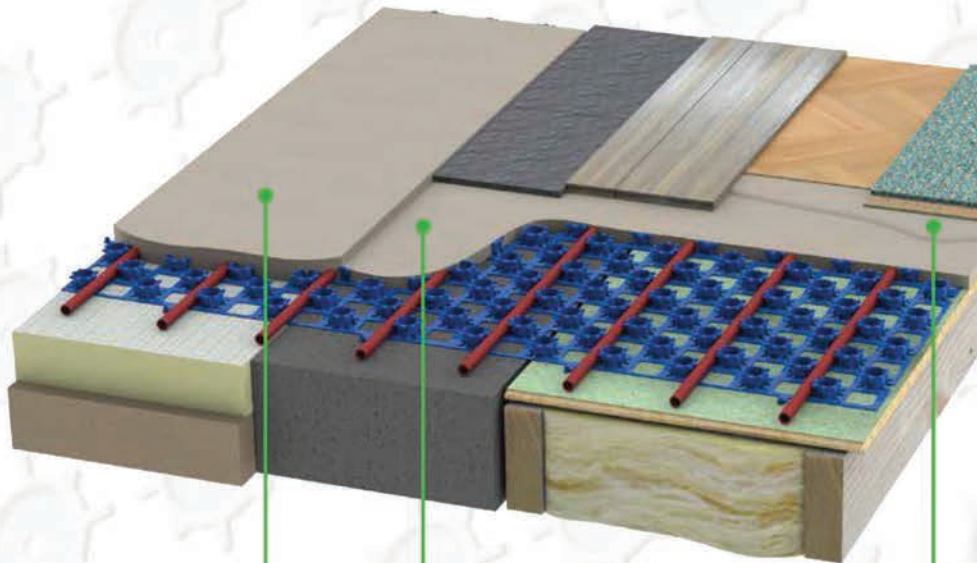


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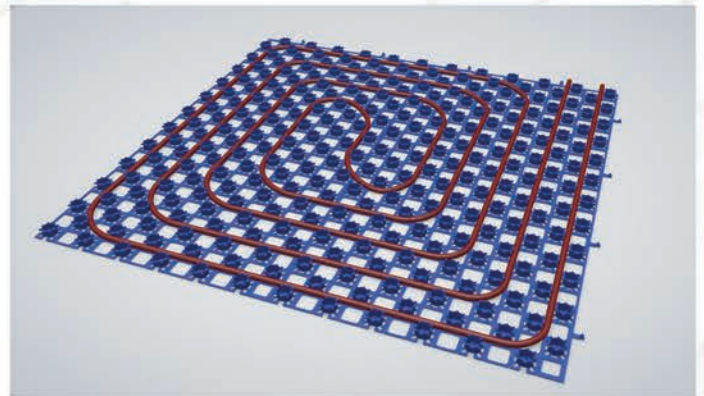
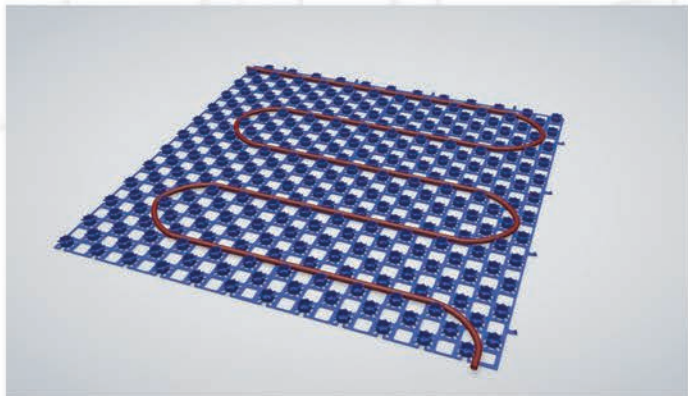
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HOW TO FUTUREPROOF HOMES' HEATING

Darren Trivett of OMNIE and the Ridspear Group counters the tabloid headlines and considers the key factors developers should address when specifying underfloor heating systems for energy efficiency on their projects.

It is unlikely you will get through a news programme nowadays without hearing a story about energy prices, climate change or the pressures on the UK housing market: be they from the rising population or the effects of Government policy towards both landlords and mortgage borrowers. And of course, all of these factors have a direct or indirect impact on housebuilders.

Significantly the latest official report on the UK's progress towards net zero still shows the UK well down the European league table on the installation of heat pumps in our homes, though it must be noted that properties being built to meet the requirements of Part L of the Building Regulations can all be expected to exceed the insulation standards, which enable the mainstream media to constantly assert that having a heat pump will make people 'colder and poorer.'

In reality, the vast majority of homeowners who have had an air or ground source heat pump installed by respectable companies (who take the trouble to specify the system correctly with regards to a building's demand characteristics), enjoy good comfort levels, as well as overall energy savings compared to using conventional heating appliances.

There is a wide choice of outputs available and factors such as compressor performance and the type of refrigerant employed to weigh up, but we do know that heat pumps in general run more efficiently at lower flow temperatures and the best way to achieve this is to use underfloor heating as the means of delivery. Yet there are very large variations in the efficiencies of UFH systems themselves, with their configuration and method of installation typically being dictated by the floor construction into which they are being incorporated.

Although pipework clipped to rigid insulation laid under wet screed remains

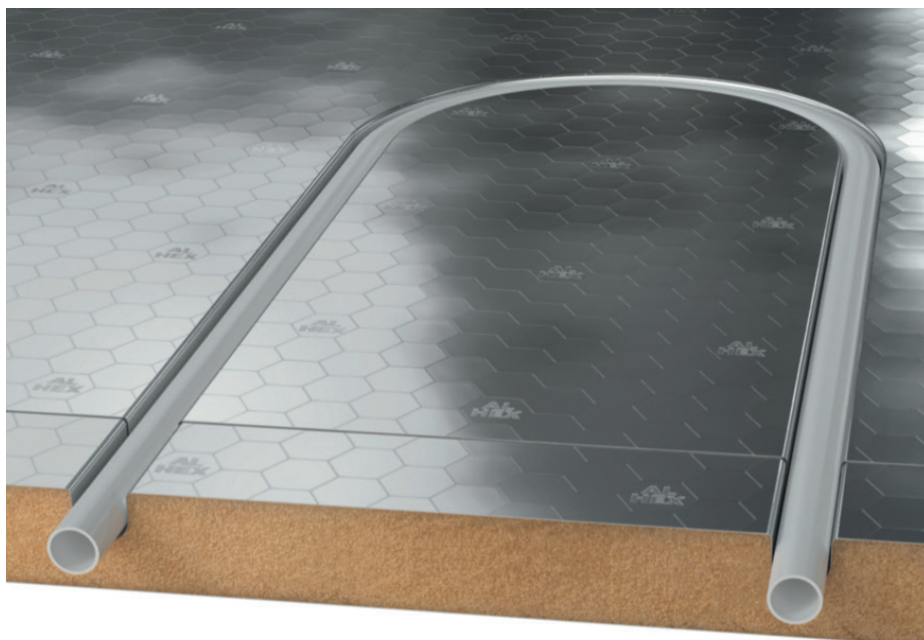


very popular, particularly for domestic ground floor layouts, 'dry' systems featuring very accurately produced floor panels are increasingly being utilised for upper storeys, in both new build and retrofit situations. These should also avoid the common problem of 'thermal striping' where pipe runs are spaced too far apart leading to poor heat distribution and comfort levels.

The top performing panels have channel profiles and special foil diffuser layers to optimise output from pipe runs, while the latest generation even include a routed overlay board whose top surface indicates where it is safe to position fixings.

Other types of UFH system and ancillary products have been developed specifically to suit situations where the client is seeking to minimise overall build height – perhaps where a habitable roof space formed by attic trusses is being fitted out – or where it is intended to install ceramic tiling as the floor finish.

The pandemic saw supply chains under real pressure, particularly for timber board products with prices reaching unprecedented levels, which may well encourage more national as well as regional housebuilders to embrace the availability of UFH panels, which can take the place of conventional particle board decking to be installed across



WE CAN BE CERTAIN THAT THE DRIVE TOWARDS HIGHER ENERGY EFFICIENCY AND AN END FOR FOSSIL FUELS IS BACKED BY AN UNSTOPPABLE CONSENSUS

engineered timber and other types of upper floor joists.

An award-winning regional builder in Wales used the OMNIE Torfloor system successfully for its developments, including in combination with LG air source heat pumps for 24 three and four bedroom houses at Pludds Meadow in Laugharne, Carmarthenshire. Salem Construction, part of Sancier Property installed the systems across the ground and upper floors, based on the level of design assistance available and having a single source of responsibility.

Although UK politicians have a long track record of moving the goalposts for our industry and even relenting on some of the more onerous targets for building standards, we can be certain that the drive towards higher energy efficiency and an end for fossil fuels is backed by an unstoppable consensus.

Underfloor heating is certain to have a large role to play in this and even if paired with a gas boiler at present, once the systems are incorporated into new build homes, they can effectively futureproof them for the efficient adoption of heat pumps, district heating or other green heat sources at a later date.

Darren Trivet is chief executive officer at OMNIE and the Ridspear Group

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SHORT CHIMNEY = CHIMNEY FAN

Traditional chimney design required a minimum flue height of 4.5 m. In theory, this was enough to ensure sufficient natural flue draught to clear the products of combustion from a wood-burning stove.

Unfortunately, the chimney draught was never guaranteed and the provision often resulted in unsightly tall chimneys when appliances were installed in single-storey buildings and orangeries.

A recent change in chimney design (see source) states that a chimney can be designed using the calculation method in BS EN 13384-2005 which allows for the installation of shorter chimneys, provided sufficient chimney draught can be proved. A chimney fan will guarantee this chimney draught even on a shorter flue design.

[...] the calculation procedure within BS EN 13384-1:2005 can be used as the basis for deciding whether a chimney design will provide sufficient draught."

Source:
Document J Building Control
Combustion appliances and fuel storage systems
page 30 - §2.8 - "Height of flues"

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Furlong flooring launch Beyond Wool® collection

Poised to deliver excellence beyond expectation, the new British-made Beyond Wool® collection from Furlong Flooring will give customers the wool-like look they want, with the finish they need. This treat for the feet is sure to create the very best interiors and includes a great new addition with a 100% recycled yarn range to give customers a sustainable, durable and easy-to-clean carpet.

The luxury Beyond Wool® collection consists of five ranges with a choice of luxury twist and loop pile carpets that give customers the natural

wool-like look combined with the practical benefits of stain and moth resistance. Featuring the twist pile ranges of Renaissance, Elegance & Serenity along with the loop piles of Henley & Marlow, the Beyond Wool® collection will also include the 100% recycled yarn loop pile range of Amesbury & Castlerigg from June 2023.

Made from recycled polypropylene yarn, the Amesbury & Castlerigg range features 100% bleach cleanable fibres, that keep a carpet looking great while being easy to clean. With a choice of six natural hues and two on-trend loop designs, the range is made in a two-ply construction with Furlong's award-winning Combi-bacO backing to ensure a trouble free-fitting and a stunning finish. These Class 33 carpets are also suitable for heavy domestic and commercial applications.

Offering outstanding value and choice, without compromising on contemporary style, the Beyond Wool® collection will give customers a hard-wearing and stylish carpet suitable for use across the home.

These visually appealing and easy to fit carpets are available in a variety of warm and cool tones that have been professionally designed to suit both residential and commercial environments, allowing you to keep up-to-date on current flooring trends, no matter the space. This innovative collection has the added benefit of seven to ten-year warranties with easy care qualities. As you would expect, this innovative collection is supported by our



class leading wear and stain warranty.

The UK-based family business offers reliable solutions for every room in the home and as a trusted single supplier, it is committed to its customers' needs. Furlong's mission is to offer only the most stylish, contemporary and well-fitting flooring whilst helping clients sell to their customers in order to build their business and reputation.

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Dulux Trade Diamond Matt has been reformulated in line with customer feedback to deliver durability and improved sustainability credentials, helping the industry move towards a more sustainable future. Architects and specifiers can be confident that Dulux Trade Diamond Matt meets key industry standards and will provide their clients with quality

results for years to come. Dulux Trade Diamond Matt delivers ultimate durability and is compliant with BS EN ISO 11998 Class 1 and BS 7719 Class C and can withstand 10,000 scrubs (the equivalent of five hours non-stop scrubbing). Dulux Trade Diamond Matt also delivers great opacity and is now available in 150 additional extra deep colours, providing reassurance that it can achieve strong aesthetics that will last the test of time.

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Keller – the top choice for UK's developers



Keller is well known for offering the widest range of colours (2,050 NCS) and finishes in the kitchen furniture market – along with a vast range of cabinet options, all produced by the most sustainable means possible. The company is proud to be a Carbon Neutral kitchen manufacturer since 2017 and is now

on the way to becoming Carbon Negative. The company is fast becoming a first choice in the premium developer sector too. Tim Spann, Keller's UK National Sales Manager, comments: "We pride ourselves on high quality and service. Apart from Keller's skillsets, we have a state-of-the-art factory that enables us to maintain the highest levels of quality consistently."

www.kellerkitchens.com



Increased efficiency thanks to company growth

The move towards a more sustainable economy is one being taken by all sectors, but is perhaps most under the spotlight when it comes to energy efficiency, specifically insulation. In fact, the importance of insulation as a sustainability factor is so widely recognised that used Northern rail workers' uniforms are set to be recycled into insulation and sound-boarding. With this in mind, it's no surprise that multifoil insulation manufacturer SuperFOIL has seen a relentless increase in demand for its products. Multifoil insulation is highly versatile, comprising insulating wadding enclosed by thin layers of reflective film. It offers numerous benefits, including its diverse applications, compatibility with other insulation types, ability to achieve favourable U-values, and ease of installation. SuperFOIL products are suitable for roofs, walls, and floors, and work well in conjunction with traditional insulation methods. Whether for new construction or retrofit projects, SuperFOIL aids in enhancing energy efficiency. SuperFOIL multifoils prioritise sustainability, with up to 40% of their materials derived from recycled sources, and are fully reusable after their extensive lifespan of over 50 years. The innovative 3-in-1 design of SuperFOIL encompasses a vapour control layer, radiant barrier, and exceptional insulation capabilities.

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Aerial view of the Tregenna Castle Resort

Commanding elevated and breathtaking views of the idyllic St Ives harbour, the Tregenna Castle Hotel and Resort covers 72 acres and presents a go to location for tourists and families wishing to experience the delights of sea and countryside from within an attractive mix of traditional and contemporary settings.

The hotel complex itself is renowned throughout the area and beyond UK shores, having been the location where US president Joe Biden stayed during the G7 summit in 2021. Now the resort looks to the future by expanding its portfolio with the help of Tregenna Homes, in the building of a group of select properties for private sale.

Castle Village, as the development is

known, provides a selection of 2 and 3 bed homes built to the highest design and environmental standards. With an emphasis on natural affinity and sustainability, Vicaima were approached by leading merchant partners Jewson of Hayle, to provide doorsets that did justice to this ethos and embodied natural design excellence.

The Vicaima Easi-Fit door kit system was selected, which consisted of FD30 and third-party accredited fire performance options and included over height door dimensions in many areas. The kits included a striking door design with the use of Heritage Oak horizontal veneer, combining decorative grooves and contrasting black ironmongery. FSC certified Heritage Oak from Vicaima's Essential range

presents figurative knots and distinctive woodgrain configurations that reflect all the much-loved characteristics and charm of natural wood veneers.

Taking full advantage of Vicaima's design flexibility, door faces were further enhanced by the inclusion of 4 horizontal 'V' shaped grooves in a tasteful light brown stain and contrasted by the specification of black ironmongery to complete the ensemble.

Easi-Fit doorkits and the Heritage Oak finish are just two examples of fresh and imaginative design and performance options offered by Vicaima.

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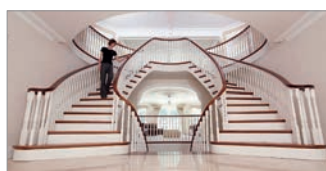


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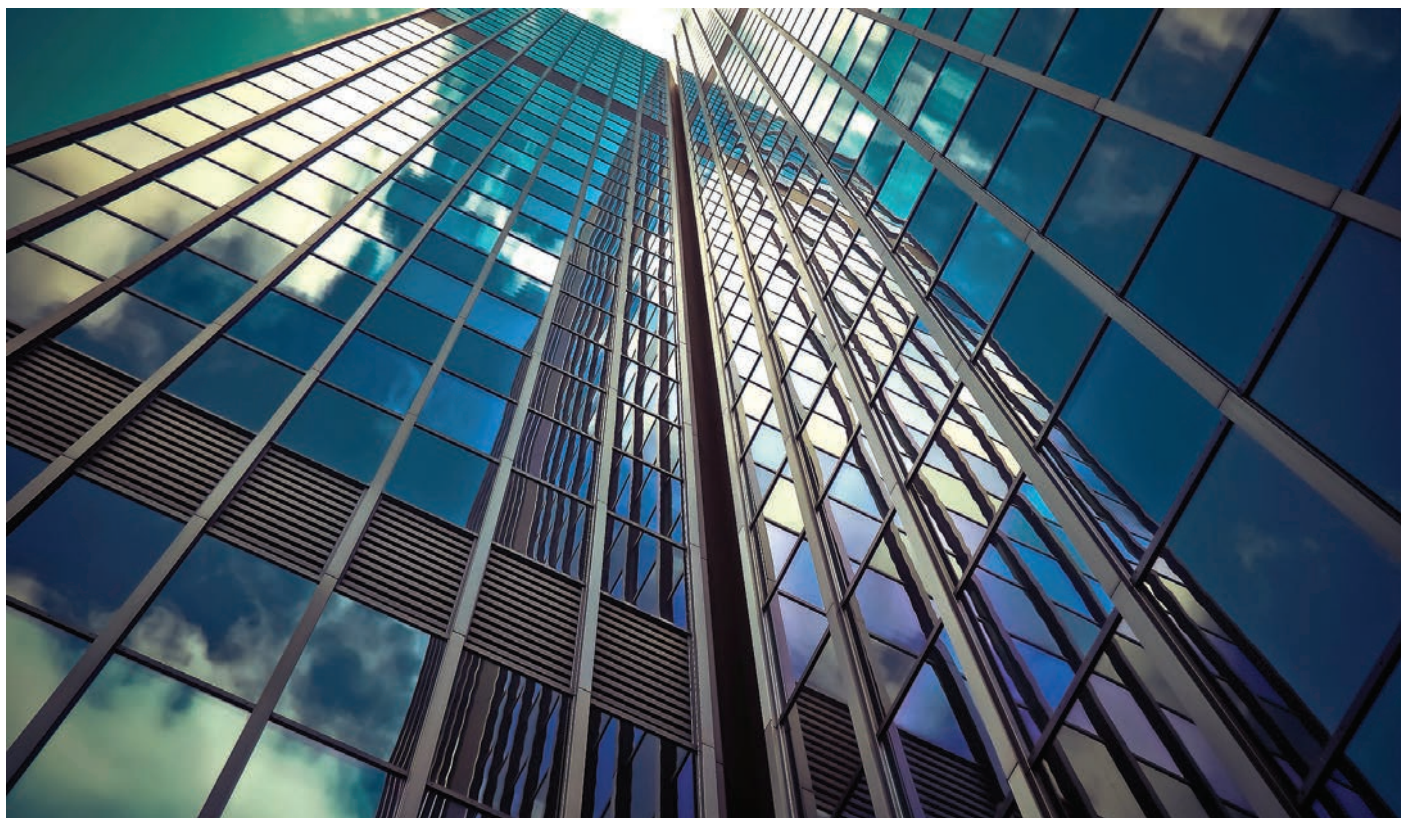


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SECOND STAIRCASE; SECOND CHANCE

Stuart Bosley of Quantum and DeSimone Consulting Engineering looks at navigating the challenges of the new 'second staircase' regulations



The Government's recent ruling on second staircases has caused significant disruption for both developers and the housebuilding industry. Despite the resulting and the pausing of many major developments, it's crucial to remain focused on the ultimate objective: ensuring the safety and wellbeing of residents.

The proposal will mean all residential towers over 30 metres will see the introduction of a second staircase, which represents a significant advancement in the enhancement of fire safety measures in high-rise residential buildings, reinforced by the lessons learned from the Grenfell Tower fire.

The second staircase ruling is estimated to cost £1.6bn over the next decade, and will cause potential delays for over 125,000 homes in London, according to real estate firms Lambert Smith Hampton and Connells. The ultimate aim for the second staircase ruling is to create

alternative escape routes for residents living in high-rise buildings, guaranteeing their safety during emergencies.

The construction on many high-rise developments have been halted due to this potential new ruling, including a 380-home development in East London which was paused due to fears it wouldn't meet the new second-staircase regulations. The 10 residential blocks were of various heights between three and 16 storeys. The developer behind the scheme blamed the Government for the delay and the uncertainty around the new regulation.

Housing association Clarion is another example of a housing developer forced to pause work on high-rise buildings due to uncertainty around the new rulings. The housing association has 15 schemes above 30 metres in height, where work is now either not moving forward or moving forward at an extremely delayed rate. Clarion's chief executive said that

he didn't want to develop a building that does not meet legislation nine months out, so put the schemes on hold. High-rise residential buildings currently in procurement in London could be delayed for as long as nine months, according to research from consultant Arcadis.

The ruling has certainly caught many housebuilders and developers off guard. The National Fire Chiefs Council has argued that second staircases should be mandatory in high-rise residential blocks over a certain height, as "a correctly designed second staircase removes the risk of a single point of failure, buying critical time for firefighting activities, and providing residents with multiple escape routes."

While these challenges are very real, the conversation is important. The industry can overcome these disruptions and commit to bolstering fire safety standards, as when it comes to health and safety, there is no room for compromise.

As consulting engineers we are experts at managing complex projects and navigating new regulations, and it's important that housebuilders and developers understand that a balanced approach is essential – one that assures safety for residents while minimising possible disruption. Achieving this balance requires effective collaboration between all stakeholders – from architects, designers, housebuilders and developers to government bodies and residents.

While the proposed second staircase ruling presents many challenges for developers, including compliance with regulations, increased costs, and potential project delays, there is light at the end of the tunnel. There are practical steps that can be taken to navigate these complexities, ensuring compliance while mitigating financial impacts.

EARLY ENGAGEMENT & PLANNING

Engage with architects, contractors, and relevant stakeholders at the earliest stages of a project. By integrating fire safety considerations, including the second staircase requirement, into the initial design and planning phases, developers can proactively address compliance issues and identify potential challenges upfront.

COLLABORATIVE APPROACH

Relationships are everything in terms of construction projects. Foster collaboration among project teams, including architects, engineers, and contractors, to ensure a cohesive understanding of the second staircase ruling's implications. Such a collaborative approach will be likely to enable efficient co-ordination and integration of the ruling's requirements into the project's design, which will thereby reduce the likelihood of design clashes or costly reworks later in the construction process.

CONTRACTUAL CONSIDERATIONS

As mentioned earlier, you should update contractual arrangements to address the second staircase ruling's requirements and potential cost implications. Engaging expert consulting engineers and incorporating specific clauses related to compliance and cost allocations can help manage contractual risks.

UTILISING TECHNOLOGY & BIM

Leverage technology, such as Building Information Modelling (BIM), to optimise design coordination, clash detection, and compliance verification. BIM allows for the seamless integration of the second staircase requirement into the project's virtual model, facilitating early

identification of design conflicts and compliance issues.

EXPERT GUIDANCE & SUPPORT

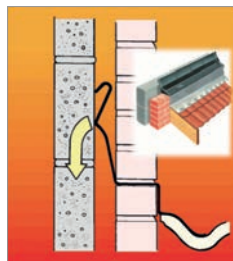
Don't be afraid to ask; no one knows everything, so reach out to industry experts, such as engineers, construction consultants, and project managers with experience in this space and develop practical solutions with cost-effective alternatives.

To reiterate, the implementation of the second staircase ruling presents significant challenges for the residential sector, including potential delays in the delivery of essential affordable housing in London. However, it's important to view this as an opportunity for the industry to prioritise the safety and wellbeing of residents and enhance overall standards. Despite the challenges, we can expect to witness housebuilders and developers rising to the occasion and finding innovative solutions to navigate the ruling's requirements.

By embracing these challenges and working together, the industry can create safer living environments for residents while striving to maintain the momentum in delivering the affordable housing which is so badly needed.

Stuart Bosley is MD of Quantum and project advisory at DeSimone Consulting Engineering

Levels drift – avoid discrepancy



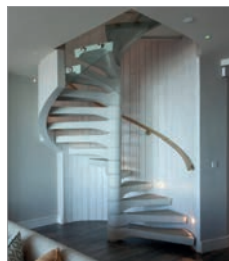
The illustration shows what can happen with a DPC cloak that relies upon a textbook relationship between masonry skins. The course into which the DPC cloak needs to build-in can be too high or too low compared with the adjacent skin.

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Embracing fabric first for healthy and sustainable homes

Changes to Part L Building Regulations this year marked a key milestone towards delivery of the UK's net zero journey. The next regulatory challenge for housebuilders is just two years away, with the introduction of the Future Homes Standard set to lay out a clear pathway for building the next generation of energy-efficient and climate-resilient homes. Here, Kealan Hunt, Commercial Director of Tarmac's Blocks business, looks at what the changes mean for housebuilders and the steps they can take to build for the future.

If we are to achieve our net zero ambitions, it's critical that we build healthy and sustainable homes. Energy use in homes makes up 23% of the UK's greenhouse gas emissions – more than double the amount from agriculture and nearly as much as all transport emissions. The UK can also lay claim to the oldest homes in Europe, with a typical home here in the UK cooling three times faster than Norway or Germany.

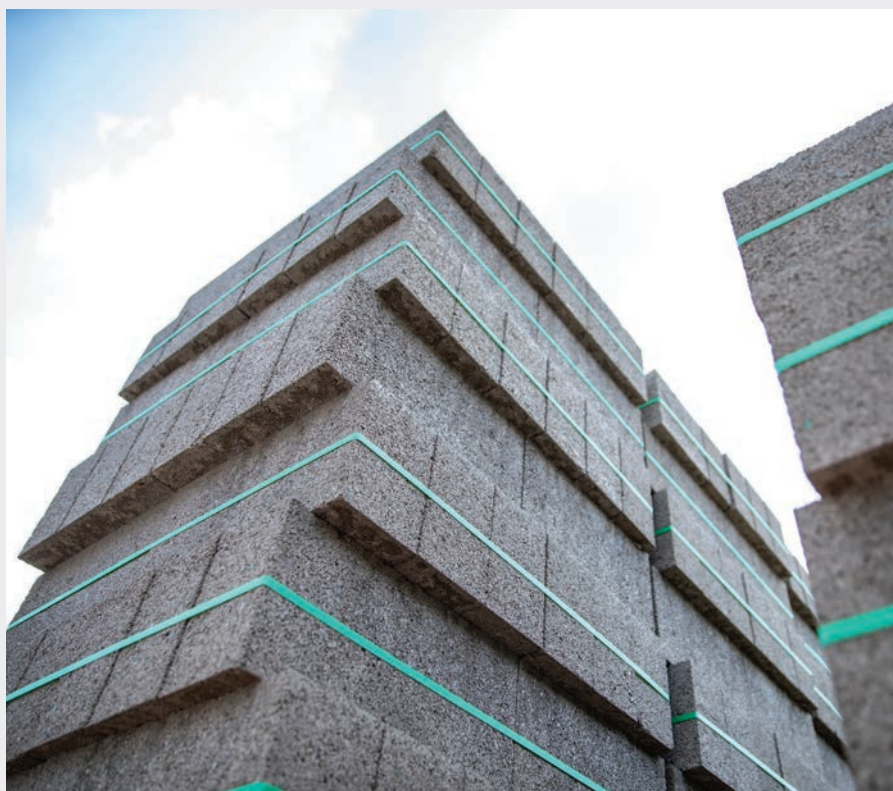
The introduction of the Future Homes Standard in 2025 is intended to go some way to meeting these challenges, ensuring that new homes are "future-proofed with low-carbon heating and world-leading levels of energy efficiency." The roll out of the updated Part L Building Regulations in June 2023 marked the first transitional step towards this.

These new regulations will require new homes to deliver CO₂ savings of 31% compared to previous standards. Central to this is a 'fabric first' approach – changing mindsets around material specification and opting for high-performance, efficient products that minimise energy use. Homes built under the new standard must be 'net zero ready' and require no retrofitting.

THERMAL BRIDGES

Crucial to the new guidance is the assessment of thermal bridges. These occur when an area of a building has significantly higher heat transfer than the surrounding parts. Breaks in insulation, reduced insulation or more thermally conductive building materials can contribute to this.

The new regulations advise that "opportunities should be considered to use



products that help to reduce thermal bridges. Options include...masonry construction: lightweight blockwork in the inner leaf of a cavity wall or both leaves of a party wall can help to reduce thermal transmittance, particularly at junctions, such as the ground floor to wall junction."

Aerated blocks are an alternative to traditional dense and medium dense concrete blocks. Tarmac has recently refreshed its range of foundation blocks to support builders in complying with the new regulations. Our Durox and Toplite aerated blocks make compliance with Part L more achievable.

With compliance starting at the design stage, we've recently developed a U-value calculator to help establish the thermal performance of varying combinations of insulation and blocks.

Tools such as these offer a more detailed assessment of the thermal performance of the wall proposed and are designed to support busy project teams.

FUTURE READY

Embracing this fabric first approach and having an ambition to go beyond simply meeting Building Regulations will help housebuilders prepare for the challenge of further regulatory change from 2025. The building envelope will very clearly lie at the heart of a new sustainable way of thinking.

For more information on Tarmac's range and its U-value calculator, please visit the website.

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Website: www.sustainablebrick.com
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SUPPORTING ROLE

Masonry is an increasingly popular cladding choice for high rise buildings. However, the selection and co-ordination of the masonry support system and cavity fire barriers is critical for the facade to perform effectively in a fire, as Ben Williams of SIG explains.

ENABLING THE MASONRY SUPPORT SYSTEM, CAVITY BARRIER AND CAVITY TRAY TO ALL BE ACCOMMODATED AT THE EDGE OF A FLOOR SLAB NEEDS VERY CAREFUL COMPONENT SELECTION



Brick and stone have been the cladding materials of choice for architects and builders for centuries due to their strength, durability and ease of maintenance, combined with a natural timeless aesthetic. Masonry is a particularly popular cladding choice for high rise residential buildings with a concrete supporting structure.

A masonry facade on a high rise building typically comprises two layers: an outer masonry skin and an inner leaf separated by a cavity. The outer skin can be stone or brickwork, or even a brick slip mounted on a backing board, to form a weather-protective rainscreen. The inner leaf can be formed from a variety of materials, including blockwork or

most commonly an internal framed and sheathed structure incorporating thermal insulation.

A masonry support system is used to transfer the load from the external brick, block or stone skin back to the main supporting structure. This support generally comprises a system of stainless-steel brackets attached to the supporting structure. The brackets span the facade cavity to support a horizontal ledge which, in turn, supports the weight of the outer masonry leaf. It is important that any horizontal movement joints are located to the underside of the masonry support system to enable differential movement between the facade and the structure to be accommodated.

Along with the masonry support system brackets, the edge of each floor slab also must accommodate a horizontal cavity barrier. Cavity barriers are essential in helping to subdivide the cavity formed between the outer masonry wall and its inner leaf into smaller compartments to prevent fire spreading vertically in the (chimney-like) void.

In addition cavity trays are also needed within the cavity to prevent the water that passes through the outer leaf reaching the interior of the building. They must be formed from non-combustible materials for buildings over 11 metres, and they must be installed where the downward flow of moisture is interrupted by an obstruction, such as a horizontal cavity

EARLY INVOLVEMENT OF A MASONRY DESIGN TEAM WILL ALLOW FOR THE SELECTION OF THE MOST APPROPRIATE SOLUTION FOR A SPECIFIC APPLICATION, ADDING VALUE TO THE PROJECT SOLUTION

barrier. Cavity trays are angled to ensure that any moisture in the cavity is directed away from the inner leaf.

To enable the masonry support system, cavity barrier and cavity tray to all be accommodated at the edge of a floor slab needs very careful selection of components and a considered approach to the design. Without this, the masonry support system could end up penetrating the cavity barrier which could, in turn, compromise its integrity in a fire.

The location and performance specification of the horizontal fire barrier will depend on the type of masonry support system specified and how and where it is attached to the slab edge.

There are many diverse types of masonry support systems available. The type of structure, the cladding material and system, width of the cavity, the masonry load, and the wind loading along with cost all need careful consideration when selecting an appropriate fixing system as part of a holistic building

envelope solution.

Site tolerance is also a key consideration with many highly engineered masonry support products. That is because the concrete floor slab will have been built within a vertical tolerance of +/- 10 mm, as will the brickwork, which means the masonry support bracket will have to allow for vertical adjustment by up to 20 mm. This additional margin must be considered when working out the precise position of components and in assessing whether or not the support system will impinge on the cavity barrier.

It's a complex picture and some manufacturers like us have a specialist masonry design team to provide specialist, unbiased advice to designers and contractors. The team can give impartial advice to both designers and contractors to help them find the best performing and most cost effective solution for a particular application.

It is possible for some cavity barriers

to accommodate some level of penetration by the masonry support system.

Where this is the case, we would recommend using a solution that has been tested to demonstrate compliance with the Building Regulations with supporting third party test evidence that the cavity barrier's fire performance will not be compromised.

Early involvement of a masonry design team will allow for the selection of the most appropriate solution for a specific application, adding value to the project solution. The team's experience and expertise will enable them to break a scheme down into its component parts and to suggest alternative solutions and components to overcome particular challenges. Or, where a scheme has been over engineered, the team can also suggest alternatives to help save on cost.

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viewed by many as the natural successor to plywood because it is more eco-friendly, is home produced and far more affordable, while it contains none of the voids or knots which have historically weakened plywood. West Fraser's SterlingOSB Zero OSB3, for example, is BBA-certified, as well as approved for load bearing in humid conditions – being manufactured to EN300 and EN 13986. The latest boards offer an exceptionally smooth surface, making it an ideal substrate which is easy to work with.

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New addition to the JJI-Joist product range



James Jones & Sons Ltd has announced the addition of a new product – the JJI Wall Stud. The JJI Wall Stud offers a low carbon solution to the UK and European construction market. Angus Macfarlane, General Manager of Timber Systems Division, said: "The JJI Wall Stud has been developed to complement changes in Part L legislation that

requires more efficient insulation in timber frame and modular homes. More than ever there is a need for highly insulated, healthy homes and the JJI Wall Stud, in combination with different types of insulation, helps achieve this. We will manufacture the JJI Wall Stud in easy to handle and easy to cut lengths to offer flexibility to the off-site manufacturing process."


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