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FROM THE EDITOR



There may be rather little to report on as we tentatively enter 2024, but there's lots coming down the track. However one recent, belated development at the the end of 2023 was the draft version of the Future Homes Standard, not a minute too soon given it's going to be implemented in 2025.

The consultation document given to the industry has however (possibly because of the now very tight timeframe) been derided by bodies such as UKGBC for lacking ambition. It aims to produce homes that have 75%-80% fewer emissions, but includes some unequivocal statements on what the standard does not cover, such as embodied carbon and even full endorsement of PVs. This is part of the reason for the criticism coming from those hoping for a more prescriptive and comprehensive approach.

The draft implicitly prioritises low carbon heating rather than installing PVs by default, giving the somewhat ironic reason that the electricity grid is increasingly becoming decarbonised. This is going down very badly among the eco-conscious fraternity, however sellers of heat pumps will be reassured.

The Good Homes Alliance says the new standard is a "business as usual charter," and UKGBC castigated the FHS saying that existing homes are already being built with higher standards than it requires, although it's hailed as providing 'net zero ready' homes. UKGBC is due to publish its Net Zero Carbon Buildings Standard in spring 2024, in beta form but likely to be far more onerous, and thereby more 'futureproof.' However it won't be a legal requirement, so those clients and Government bodies wanting to actually produce 'net zero' homes given the Government's 78% CO₂ reduction target in 2035 might want to look at this alternative.

The UKGBC's standard includes embodied carbon, and aims to provide "clear, consistent definitions and trajectories to net zero buildings." It's claimed to be "collaboratively created by, and for, the built environment industry, and not owned by any one organisation or institute," and to be "politically neutral," which might help it survive the Election.

Meanwhile, Part Z (the industry-generated proposed Building Regulation covering embodied carbon) is somewhere in Bill form in the Houses of Parliament. Whether it will ever see the light of day is anyone's guess.

Something more tangible is that housebuilders now need to deliver 10% biodiversity net gain on new developments by law. Our recent round table on SuDS explains how it can be the ideal approach for producing natural features in the heart of new housing – a full white paper report on the event can be found at www. insights.netmagmedia.co.uk.

James Parker, Editor

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ON THE COVER... A CLT extension to a school in Edinburgh is on the way to being Scotland's first Passivhaus primary school project. Cover image © Chris Humphreys For the full report on this project, go to page 33

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EDUCATION

RIBA gives seal of approval to Lancaster Uni architecture course

Lancaster University's School of Architecture has gained a Royal Institute of British Architects (RIBA) seal of approval for "key courses."

A panel representing the RIBA has granted "full and unconditional validation" (Part 1) to the BA (Hons) Architecture and Candidate Course status to the Master of Architecture course at the university.

The panel, made up of several UK experts in architectural practice and academia, reviewed student work, course structures and school facilities over two days.

Speaking on the success of the visit, head of architecture at Lancaster University Des Fagan said: "This is an excellent outcome which arrives soon after our outstanding National Student survey (NSS) results last month, which saw the course placed number one in all 65 UK schools in more than half of the questions."

"The RIBA panel were incredibly positive on the potential of our school to become a leading light in the field of international architectural education."

The RIBA commended the School of Architecture in three areas: the staff, for their commitment to creating an "excellent student experience"; the student society (the Lancaster Student Society of Architects), for their "proactive approach to helping establish the collegiality of this new school, particularly their mentoring scheme"; and the university's successful appointment of "high calibre, dedicated and ambitious staff."



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SPORTS & LEISURE

Holmes Miller appointed lead architect to design new Dundee stadium

Holmes Miller Architects has been appointed by Dundee Football Club to begin work on designing a stadium for the club. Experienced in stadium design, the practice has a diverse portfolio of stadium, arena and leisure projects across the UK over the past four decades, including the recent "vision" for Hampden Park in Glasgow.

The project will see the development of plans for a proposed "state-of-the-art" stadium as part of a mixed-use development at Camperdown, to replace the Club's current home of Dens Park, which dates back to 1899.

Holmes Miller has worked with LJRH of Dundee, to develop a masterplan with the new stadium concept at its heart. A Planning Permission in Principle application (PPiP) covering the proposals will be lodged in January 2024.

With a capacity of around 12,500, the stadium will be designed to "amplify matchday atmosphere," with features such as a home-end safe-standing "tribune," activated concourse areas, and LED screens. The scheme also features a 1000-capacity multi-use venue, tiered hospitality experiences, and a 250-capacity "brewhall."

The stadium will be the centrepiece of a mixed-use destination featuring a 120-room hotel with health and wellbeing facilities, a Dundee FC training centre, residential



development, and city crematorium. These will be crafted within a new landscaped public realm served by a dedicated bus terminal, cycle hub, and EV charging facilities to create a well-connected new district of Dundee.

Net zero design and inclusivity will be "at the core of the project," said the architects.

APPOINTMENT

WILL+Partners continues growth with senior appointment

London-based practice WILL+Partners has recently appointed Alex Wateridge as client relationships director. Alex will lead the practice's sales and marketing team, and will also be actively involved in devising strategic direction for growth. Alex's appointment follows the recent arrival to WILL+Partners of Clare Danahay as director of workplace.

Alex brings 10-years of experience in the architecture and design industry. This includes roles at Kettal, a designer and manufacturer of outdoor furnishings, as business development and sales manager.

WILL+Partners managing director William Poole-Wilson said: "This is a significant period of growth for the practice, and we are delighted that Alex is part of that."

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PRACTICE PROFILE

T2S Architecture

Born in the pandemic, T2S Architecture embodies adaptability, cultural diversity, and a distinctive design ethos. Tom Boddy speaks to the founder about the pillars of the practice's approach, in the context of the industry's evolving challenges

T2S Architecture presents a distinctive fusion of agility and diversity that defines the essence of the firm. Since its inception, the firm has gone from strength to strength, cultivating a robust, sustainability-targeted ethos and a distinctive approach to both clients and projects.

Tom Slater, founder of T2S, studied architecture in Liverpool. Despite his love for the city, a mix of both personal and professional reasons drove him to London, where he says he "jumped up a level professionally."

Ascending the ranks to architectural director, Slater eventually got the urge to establish his own practice during the pandemic. As T2S was founded during such an uncertain period, one trait that has been instilled into the practice is its ability to adapt and remain flexible. With every team member equipped to be remote, the firm can navigate disruptions such as train strikes and other external challenges.

Evolving from a solo endeavour in 2021 to now an office of five based near London Bridge, the practice has maintained steady and sustainable growth. Tom says that as the firm expands, focusing on his staff is fundamental: "Every time we grow, I need to make sure I can protect what we have."

The office comprises individuals from "all around the world," and this tapestry of cultures and nationalities was the result of both deliberate and organic processes, explains Slater. Recognising the value of varied perspectives and inspirations, there was a conscious effort to foster cultural diversity in the workplace. According to Slater, "People from different parts of the world have different perceptions and draw inspiration from different sources." This mix allows Slater and his team to be exposed to different ways of thinking, enhancing their creative skills. Given London's inherent diversity, this integration also unfolded quite naturally during the recruitment process.

Reverence for refurb & fresh design

At the heart of T2S' ethos lies a profound reverence for existing structures, a sentiment echoed by its founder, tracing his appreciation back to a GCSE graphics project where he chose to explore the refurbishment of an old mill in his hometown of Burton on Trent. He says: "I realised there was something beautiful about refurbishing old buildings," adding that demolishing structures with decades of history "should be a last resort."

The company's commitment to the restoration of buildings also reflects a broader sustainability perspective. This approach is not merely nostalgic; it aligns with the industry's "growing sustainability consciousness," he says. Recognising the importance of embodied energy, the company prioritises the retention and enhancement of existing structures over demolition, as shown in its portfolio.



FRIERN PARK

A development designed by T2S consisting of 21 apartments within a detached four storey building in Barnet, north London

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Formed during such an uncertain period, one trait instilled into the practice is its ability to adapt and remain flexible

T2S also embraces higher density, tied into Slater's love for cities, combined with the belief that promoting denser designs for prime locations with nearby infrastructure, supports sustainability. "If we enhance and increase the size of an existing building with a tube line nearby, we're encouraging people to use public transport instead of, for example, using cars." This resonates with contemporary urban planning concepts like the 15-minute city, promoting living with easy access to services and workplaces.

The practice's design process begins with a thorough study of the local area to understand the urban 'grain' and examine existing architectural types. The designers extract valuable insights from this that help them understand the parameters and constraints influencing the design, and rather than seeing them as barriers, they "look to celebrate them."

This research includes the creation of simple sketches that react and respond to the project's site context. These can be "very evocative forms" that serve as the project's foundation, as a reference to ensure subsequent design elements such as window forms, materiality, and detailing naturally complement the overall structure. By contrast, he says, design pitfalls arise when initial early forms are poorly conceived, but attempts are made to salvage them using 'interesting' materials later on – "by this point, it is too late!" Slater adds: "You needed to have that conversation six months earlier, to create a form that is interesting in of itself."

Varied portfolio

Some projects that exemplify the practice's contextual diversity include their mixed use project in Dalston, east London which transformed an existing building on a high street disfigured by a World War II bombing raid. The original replacement, being in a different style to neighbours, prompted the practice to reinstate the classic Victorian frontage. "This was a project where we allowed the site context to drive the design."

In contrast, residential projects like Friern Park and Victoria Road in Barnet presented a more modernist approach. In these instances, the site context lacked architectural inspiration, but this allowed the architects to initiate a fresh and original design. Both of these small apartment blocks present an elegant mix of carefully detailed brick facades, and generous apertures bringing in light.

T2S Architecture's approach to working with clients is marked by a process that includes early consideration of commercial potential and a strong emphasis on fire strategy. When clients bring forth potential sites, the architects swiftly generate sketches, 3D views, and plans to illustrate the commercial possibilities. A distinctive feature of T2S' approach is their proactive integration of fire strategy considerations into the early stages of design, particularly in the post-Grenfell environment.

"One major issue with that tragedy is how the fire brigade couldn't get close enough as the buildings in the area were too tight," explains Slater. This has influenced their design process so that each project has a well-conceived design on compliance and overall project feasibility, supported by a close relationship with clients. "One thing we are good at is how we take clients through



VICTORIA ROAD

Another TS2 project in Barnet saw the practice designing a mixed use proposal for 11 residential apartments and 800 ft² of commercial floor area

the whole process," says Slater. "We're able to build buildings and we're able to design buildings," contributing to the strong relationships they foster with clients.

Slater explains further the pragmatic benefits of the firm's design approach: "If you can't build a building, then you can't design one." He adds: "I'm a big believer in being an all-rounder – technical and creativity feed into one another; it's symbiotic."

Remaining ahead of industry developments is a constant challenge, says Slater, who coaches his team to remember that architecture has a '10-year cycle.' He believes that the industry is undergoing a new cycle post-Covid, and it's essential to stay relevant, as those who fall behind find it challenging to re-enter the current scene.

He believes that technology and AI are key examples. While Slater says that AI has already been adopted in "a lot of practices," the broader implications on individuals, communities, and professions remain uncertain. "It's a challenge that I don't think society is talking about enough." Answering the question of whether the architecture industry is prepared for AI, he says "I don't have the answer, but it's something that I'm thinking about and we will need to adapt in the future."

The practice's future goals involve sustained growth and an expanded client base. With an eye on the Government's heightened attention to the housing crisis, T2S aims to engage in more Government-backed competitions, particularly focusing on housing frameworks. Slater envisions positioning the practice at the forefront of such initiatives, stating, "While it's not something we're doing at the moment, in five years I want us to be involved."



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VIEW POINT

Shikha Bhardwaj from Hawkins/Brown says understanding whole life carbon is no longer a choice; it's essential knowledge for architects on every project. She explains the standards which are emerging to embed carbon measurement into the industry

e are all familiar with counting the calories of what we consume in order to live a healthy life. In a similar way, to improve our planet's health we need to be mindful about the number of resources we consume, the quantity of emissions we generate, and the other impacts. This is key if we are serious about tackling the climate emergency through urgent action before 2030.

Why is understanding whole life carbon essential?

Hopefully, it is common knowledge by now that the built environment is contributing to 39% of the global emissions that are warming our planet, out of which 11% is from materials (based on UN data). To minimise those emissions, we need to understand the contribution of each life cycle stage, including end of life, and particularly of upfront embodied carbon (which is divided into modules A0-A5).

A well-structured whole life carbon analysis process, integrated into the design process, would help designers to understand the embodied and operational carbon emissions they are creating, and to work to minimise them from the early design stages.

Current industry information about whole life carbon

There is a plethora of information available. which at times can be overwhelming! The key is to break it down and understand what is mandatory and regulatory and what is for guidance. Firstly, there are International ISO and PAS standards governing how to measure and manage carbon emissions. Then there is BS 15978 that details the life cycle stages used to do a whole life cycle assessment (WLCA), and BS BS15804 that governs how Environmental Product Declarations (EPDs) are produced consistently. The RICS Whole Life Carbon Assessment for the Built Environment Standard 2023 translates this into the pragmatics of how to produce the



While it is well established that measuring and reporting whole life carbon is essential for emission reductions, it is still not a mandatory requirement within the UK Building Regulations

calculation and report it consistently for buildings and infrastructure projects.

Alongside this, there is a lot of industry guidance including the LETI Embodied Carbon Primer, IStructE, RIBA, CWCT, CIBSE TM65 and, soon to be released from the UKGBC, the UK Net Zero Building Standard. It is important to realise this guidance does not replace the RICS standard, it all amplifies the information in that document for a specific audience. There can be mandatory project requirements from certifications such as BREEAM, but it is important to note these calculations do not currently follow the full RICS standard scope. Increasingly, WLCA is mandated by planning regulation. The GLA has required the submission of these calculations for major or referable projects since 2020. They indicate benchmarks but no limits. Other local authorities are following suit, but in different ways, depending on location.

To summarise, it's fair to say we have all the guidance we need; what's required is the legal act of making it mandatory and measuring consistently across the UK and upskilling teams to do that. Part Z can help make a start.

What is Part Z & why do we need it now?

While it is well established that measuring and reporting whole life carbon is essential for emission reductions, it is still not a mandatory requirement within the UK Building Regulations. It is clear there is an emerging variance in how it is treated within planning authorities – and hence within design practices. As a result, in 2021, a group of five experts – multidisciplinary sustainability professionals – developed Part Z. This was a proposal for amendments to the Building Regulations to mandate the reporting of WLC and eventually, the limiting of carbon emissions.

The document is available online, and its clear intentions can provide a needed direction to the industry. Part Z1 plans to help normalise the use of WLC assessments within the building design process, to identify easy wins and key contributors early on, and then ways to reduce the WLC impact. Part Z2 is intended to "discourage excessive and unnecessary use of resources within the built environment, by setting a reasonable standard of efficiency for the upfront embodied carbon intensity of the building." Part Z1 is envisioned to gather quality assessment data as a first step, and use it to determine realistic national targets for upfront embodied carbon for Part Z2.

How could Part Z drive a sustainable built environment?

Key to carbon reduction is consistent measuring with defined scopes, but also using the outcomes to influence design. Part Z would bring a steady approach to measure both operational and embodied carbon, so it becomes part of the design thinking. For better built environments, analysing operational emissions early on would help ensure that buildings are designed using passive principles, with efficient systems, low carbon technologies to minimise energy demand, and hence emissions.

For embodied carbon, iterative analysis could help focus on minimising up-front carbon by using low carbon materials suitable for the building use and requirements, while not ignoring the durability and replacement cycles (Modules B-C and D). Early measurements would help draw attention towards reducing the upfront embodied carbon, which is key in the current climate. It is the largest proportion of embodied emissions in the WLC and will be released in the immediate future for buildings being designed now. However, for a well-informed decision it is essential to take a long-term view - to understand what operation, maintenance and replacement cycles mean through WLC results. Part Z could be used to find that balance, between upfront and WLC and then between embodied and operational.

Furthermore, the improvements and reductions could be fairly compared between different projects regardless of where and who is doing the analysis within the UK; this helps to scale-up. Regulating WLC would further drive the retrofitting of the existing building stock instead of building a new, supporting circular economy.

How is it going to bring challenges and opportunities for key players?

We need to recognise that WLC is a skilled task, therefore one of the key challenges is upskilling. This applies to clients, regulatory bodies, designers, contractors, and manufacturers. For clients it is key to understand what they are committing to, for regulatory bodies to comprehend data and review the proposals presented during planning; for contractors and manufacturers it means upskilling the teams with WLC methodology to allow regular monitoring required on site so set limits can be achieved.

The other challenge is the associated cost, as clients will have to pay for specialist services, and depending on the pace of upskilling, others might have to rely on limited third party verifiers, hence additional cost.

But the investment brings necessary, long-term benefits. Following this approach will add to certainty in the process and outcomes once the initial phase of introduction is over, and will bring opportunities to incentivise a low carbon material supply chain. When

Part Z is intended to bring a step change; the regulation of whole life carbon has been supported by more than 100 firms of developers and architects, including Hawkins\Brown

regulation is introduced, it will allow long-term investment to be made. This will directly benefit the innovative products that currently struggle to get traction and certification, due to the large costs involved. This will also mean that existing buildings can be looked at as 'material banks,' and the first instinct will be to reuse and not build new.

Part Z's wider impact

This one act can bring a huge shift in how we design and assemble almost anything. Currently, there is a huge gap as only a small group are following the approach, but with amendments to regulations this will change drastically. This will mean that everyone follows consistent methodologies and there is transparency, and will build up the quality database that the industry urgently needs. But the key transition it will bring is our outlook on the environments we have built already, including use of circular economy principles, using our cities as material banks, and urban mining to reduce the emission figures.

The power of Part Z will be escalating the demand to invest and research into innovative low carbon materials and new techniques of construction (using existing materials) and how we record and use material information. We have seen a huge uplift in discussions and explorations around structural efficiencies, retrofit and low carbon materials such as timber as an outcome of WLC conversations. This needs to be carried forward for our design thinking to expand, and for the phasing out of outdated carbon-intensive construction approaches that are clearly not good for the health of our planet.

To conclude, Part Z can bring a step change, and this regulation of WLC has been supported by more than 100 firms of developers and architects, including ours.

Shikha Bhardwaj is lead sustainability designer at Hawkins/Brown

INTERNATIONAL Focus

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SYGGROU PROJECT, ATHENS BENNETTS ASSOCIATES AND DIVERCITY ARCHITECTS

The Syggrou project – a landmark commercial scheme in the centre of Athens – is now fully occupied. Designed by Bennetts Associates and Divercity Architects for developer Dimand S.A., the 15,600 m² office complex sets a new benchmark for workplaces in Athens and Greece, with its "high-quality, sustainable and people-centric design," said the architects. It comprises two eight-storey buildings, the first of which has achieved LEED Platinum.

The prominent corner site is located on one of Athens' key thoroughfares, Leoforos Syggrou, which links the city centre with the sea. At the centre of the scheme is a modern reinterpretation of classical design through elements such as the 'stoa' (a colonnade that grounds and connects both buildings to the context) and the 'peristyle' (a framed entrance shared by both buildings with a new garden at its heart.) Sculpted rooflines draw the eye of those passing by on Leoforos Syggrou, while elegant facades of locally sourced white marble fins capture natural light while providing ample shade, driving energy efficiency and targeting lower embodied carbon.

Aiming to maximise passive design, the design works with the local climate. Measures include limiting the amount of glass to 40% of the facade, full shading to all areas, a low-energy air conditioning system and green roofs measuring 1,100 m² in total. A full Life Cycle Assessment was undertaken to evaluate and lower the scheme's embodied carbon and overall environmental footprint.

In addition to the green roofs, biophilia plays a strong role elsewhere to further enhance biodiversity and support occupier health and wellbeing. The complex incorporates two planted terraces and a c.650 m² green garden for employees that references traditional Greek courtyards.

The wider project team comprised contractor Ballian Techniki, structural engineer Pagonis-Polychronopoulos-Kinatos, landscape designer H. Pangalou & Associates and sustainability consultant D-Carbon.

ENTERPRISE RESEARCH CAMPUS, MASSACHUSETTS, MVRDV

Construction has begun on an MVRDV-designed residential complex in the Enterprise Research Campus – adjacent to the Harvard Business School – in the Allston neighbourhood of Boston, Massachusetts. The scheme includes 343 apartments – including 25% affordable units – retail spaces for small local businesses, a green rooftop terrace, and amenities for the residents.

Located across from Harvard's Business School on Western Avenue, the Enterprise Research Campus is transforming what was once an industrial site into a green and walkable neighbourhood.

The design by MVRDV borders the Greenway and sits in the middle of the masterplan – designed by Studio Gang and Henning Larsen with landscape architects SCAPE and Bostonbased design firm Utile.

The exterior design of the apartments is characterised by small indentations and protrusions that create what the architects called an "intriguing texture," and also allow more apartments to have a corner window, maximising the views for each resident.

All of the buildings in the Enterprise Research Campus adopt a "recognisably Bostonian colour palette;" in the case of the residential buildings, the facades are clad in glossy green panels, a reference to the green copper-clad bay windows that are common in Boston.

The project targets LEED-Gold sustainability certification thanks to high energy and water efficiency, consciously sourced and engineered materials, and state-of-the-art MEP systems.













SCIENCE CENTRE, SINGAPORE ZAHA HADID ARCHITECTS

Singapore's Science Centre Board held a groundbreaking ceremony for the new Science Centre, at the site located next to Chinese Garden MRT station. Designed by Zaha Hadid Architects in collaboration with Architects 61 Pte Ltd, the centre will offer unique facilities and a wide range of programmes to drive STEM education in Singapore. Targeted to open around end-2027 – the year of its 50th anniversary – the centre is set to be a "key landmark attraction" of the Jurong Lake District. Approximately 55,000 m² in size, the building will be developed over a site of about 7.4 hectares, and will be about 25% larger than the current centre.

The new Science Centre will be equipped with the latest technologies and an outdoor amphitheatre to provide immersive learning experiences for visitors of all ages, including hands-on, interactive exhibits, as well as emerging technologies like generative Artificial Intelligence through workshops, exhibitions, and seminars.

The centre will offer visitors views of Jurong Lake and the surrounding gardens through the large windows of the building and the rooftop gardens, or as they stroll along the 30 metre wide outdoor activity plaza linking Chinese Garden MRT station to the Jurong Lake promenade. The rooftop garden above the easternmost block will be an event space available for public booking. Visitors can also enjoy stargazing at the Observatory at night.

CPD FOCUS

Visit www.architectsdatafile.co.uk to subscribe to the CPD Focus newsletter - featuring the latest CPD courses, seminars and documents for architects

THE FUTURE OF AIRTIGHTNESS – AEROBARRIERUK



Looking at the Future Homes Standard and beyond, join Head of AeroBarrierUK, Hugh Franklin, on a tailored seminar covering the importance of specified airtightness in new build projects. Delivered in-person or via webinar, this CPD covers the 'last uncontrolled variable' in building energy performance and how to achieve guaranteed, high performance airtightness at scale. The seminar

will cover current and upcoming Building Regulations, the challenges faced by Architects and Specifiers with traditional systems, and what The Future of Airtightness looks like for the UK construction industry.

enquiries@aerobarrieruk.co.uk www.aerobarrieruk.co.uk

BRAND NEW CPD FROM LEVIAT



Leviat's latest CPD seminar, 'Considered Facade Solutions for Complex Applications' helps specifiers and building professionals understand the complex issues that can arise when designing masonry facades crucial in order to keep control over the design process and to keep within budgeted construction costs.

On 21 November, Sara Dawes, one of the Regional Technical Sales Managers at Leviat, delves deeper into wall ties, damp proof coursing, large cavities, pier arrangements, as well as other slab zone components, and how they can impact the design of masonry support systems.

0114 275 5224 cpd.uk@leviat.com

QUANTUM FLOORING'S STAIRWAY SAFETY CPD



Quantum Flooring's Stairway Safety CPD looks at the guidelines for the correct specification of stair nosings, and other aspects of steps and staircases. This CPD deals with the subject of how to make commercial, public, or shared stairways safe, and meet all current Building Regulations, British Standards and Equality Act guidelines. The seminar explores key selection requirements such as slip resistance, LRVs in terms

of both safety and design, step shape, protection of floorcoverings, and other important issues with regard to specifying stair nosings. It also looks at current best practice guidelines, with examples of specifications and projects which meet these standards. The Stairway Safety CPD covers four of the ten mandatory RIBA core curriculum syllabus topics: Health, safety and wellbeing; Legal, regulatory and statutory compliance; Design, construction and technology; Inclusive environments. A Q&A is included at the end of the seminar, to answer any specific queries you may have about the subject matter. This CPD is available both online and in person, at a time to suit your practice.

info@quantumflooring.co.uk quantumprofilesystems.com/en

Luceco fits well at White Oak Leisure Centre



Luceco has recently supplied luminaires to the brand-new £20 million White Oak Leisure Centre in Swanley. The impressive facilities required energy efficient lighting to suit, Luceco's lighting design services proposed a scheme that was chosen to illuminate the majority of the centre. The wet and dry changing rooms, family changing village, WCs and corridors were lit with over 200 13 W Platinum Mini downlighters with matt reflectors, with the cafe servery and reception area lit with another popular downlighter, the F-Type, an 8 W 800 Lm dimmable IP65 rated fitting. The gym was lit with suspended rows of Contour luminaires to provide contemporary, practical energy saving lighting which enhanced the interior design of the space. Contour provides individual or continuous runs of illumination, as used at White Oak Leisure Centre, making it suitable for many commercial environments. The LED lighting system consists of connectable modules with integrated drivers with quick electrical connectors for ease of installation and offers a five to seven year extended warranty with over 100,000 hours operational life.

01952 238100 www.luceco.com/uk

Marmox enjoys success at London Build Expo



Insulation specialist, Marmox, is reporting the widespread interest and leads generated by its stand at London Build Expo, which took place at Olympia (15-16 November), where the company displayed a range of its products, including flying the flag for a new Fireproof and sound absorbing product. The UK's largest construction show involving some 350 exhibitors was attended this year by over 30,000 visitors, the numbers embracing builders, architects, engineers and developers, many of whom took time to stop by the Marmox stand and look over its well-respected and highly versatile Multiboard, along with the new Marmox Fireboard which will be available to purchase in January 2024. Fireboard can be specified for both internal and external wall insulation (IWI/EWI) applications and shares Marmox's honeycomb surface structure with its XPS forerunner, Multiboard, to create an A1 non-combustible certified render-backer which is weather resistant. Multiboard also on display meanwhile, remains a tried and trusted construction material across building sites around the country.

sales@marmox.co.uk www.marmox.co.uk

ARDEX returns to SPATEX 2024

RDEX UK are once again exhibiting at SPATEX – the UK's largest pool, spa and wellness show – which is taking place from 6th to 8th February at the Coventry Building Society Arena.

At the heart of the pool and leisure industry, SPATEX is backed by a number of prestigious associations including ISPE (Institute of Swimming Pool Engineers), SPATA (Swimming Pool and Allied Trades Association) and BISHTA (British and Irish Spa and Hot Tub Association).

ARDEX will be returning to Stand D1 to showcase their world-class tiling solutions for pool and wet leisure installations – providing an extensive range of products, designed to work as systems – not only for fast-track installation times, but that also produce longlasting, durable finishes.

Join the ARDEX team of technicians and specification experts to find out why ARDEX are the experts in swimming pool and wet leisure installations – with systems specified on a many prestigious projects including the London Aquatics Centre for the 2012 Olympic Games,



the Toll Cross International Swimming Centre for the 2014 Commonwealth Games and many, many more!

Visit the ARDEX stand and talk to professionals about your pool projects, find out about products and systems and how ARDEX taps into the resources of the ARDEX Group – a global leader of highperformance building products – to provide solutions to a range of situations.

Shaun Howarth, Head of Business Development at ARDEX will also be

delivering a RIBA-approved CPD 'Specify Tiling in Swimming Pools and Leisure Centres' at 1.15pm on Tuesday 6th February in the ISPE Workshop Arena. Shaun will be discussing the latest developments and standards in swimming pool design and tiling and considerations for contractors and architects when selecting and specifying the most appropriate tile fixing solutions for use in swimming pools and leisure centres.

www.ardex.co.uk www.spatex.co.uk

Export positivity as market turns increasingly global for EJOT Colorfast



An innovative roofing and cladding fastener developed by EJOT in the UK more than 30 years ago, and now on its third generation, is becoming increasingly popular with contractors around the world. Specifications of EJOT Colorfast, which has become the go-to solution in the UK roofing and cladding sector where a colour-matched self-drilling fastener is required, are growing strongly in countries including Australia, New Zealand and the US, as well as in the Caribbean and southeast Asia. As a typical example, in Australia and New Zealand alone, a steady increase in sales volumes of the FM Approved fastener range has been tracked, with the growth in cold storage applications and insulated panels helping to drive demand here. Feedback received by EJOT UK indicates that many contractors in locations like Australia are adopting new approaches to the design and installation of the building envelope in response to changing building standards, whilst also being able to achieve improved aesthetics and extended design goals. It is a product that is becoming increasingly appealing to cope with the vast range in climatic conditions, whether in hot or cold locations.

01977 687040 www.ejot.co.uk

Vent-Axia's Sentinel Apex wins second award



Leading British ventilation manufacturer Vent-Axia impressed the judges at the inaugural ECN Awards 2023. The Sussex-based company scooped the 'HVAC Product of the Year' award with its Vent-Axia Sentinel Apex, the next generation of commercial heat recovery ventilation. Vent-Axia received the accolade at the glittering ECN awards ceremony on Thursday 30 November held at the

Heart of England Conference and Events Centre in Coventry. The Sentinel Apex achieves the holy grail by delivering the highest level of IAQ and thermal comfort with the lowest energy and noise levels.

0344 856 0590 www.vent-axia.com

Diffusion's new range shortlisted at awards



Diffusion, British heating and cooling equipment specialist, is thrilled to announce that it has reached the shortlist in the CIBSE Building Performance Awards 2023. The company's New Modular Highline 235 Fan

Coil Range is in the final line up in the 'Product or Innovation of the Year – Thermal Comfort' category of the awards. The new range has been developed to create the perfect indoor environment, offering modular design, compact dimensions and advanced components that deliver low sound levels, reduced energy consumption, optimal performance, and significant sustainability benefits.

020 8783 0033 www.diffusion-group.com





Exploring 'Solutions for Stormwater Management'

Our second industry round table focused on the newly legally mandated requirement for SuDS in residential schemes, and was sponsored by Innovyze, Brett Landscaping, and Polypipe Civils and Green Urbanisation. It saw landscape architects, engineers, builders and suppliers come together to discuss best practice – and bust some myths

ur second Building Insights LIVE round table event focused on solutions for the soon-to-be-statutory requirement to provide sustainable management of stormwater on all new residential projects, essentially by making them more permeable. The key goal is to mitigate the effects of development on drainage as we experience more and more extreme weather due to climate change, but also to ensure that the water running off those sites is of better quality. However, a further major benefit is the potential for greening our future developments using natural features, and thereby creating new standards of amenity for residents.

The round table, sponsored by Innovyze, Brett Landscaping and Polypipe Civils and Green Urbanisation, was a unique opportunity for specifiers to exchange views on how to deliver SuDS (Sustainable Urban Drainage Systems) with key suppliers, in the informal surrounds of the Building Centre in London. It produced a range of constructive pointers, as well as a set of recommendations for the industry (captured at the end of this report).

SuDS is the principal, and established method for achieving such schemes, and there are a range of approaches to achieving it. However, time is of the essence, as with Schedule 3 of the Flood and Water Management Act 2010 about to finally be implemented, design teams are now confronted with a legally binding SuDS requirement in all projects. While they may buy into the concepts and the solutions (whether natural, or engineered, or most likely a combination), the practicalities of doing SuDS on a vast range of often constrained sites are going to be tricky for many.

That's why our event was so timely; as well as bringing together SuDS experts, housebuilders, and product suppliers to exchange ideas and real-life knowledge from practice on the ground, it was also staged just before Schedule 3 was due to be fully implemented,

ROUND TABLE ATTENDEES

- Sue Illman, Illman Young, landscape architects
- Chris Carr, Federation of Master Builders
- Steve Wilson, Environmental Protection Group
- Matt Clutton, Cameron Homes
- Martin Shaw, Meadfleet
- Ruth Clarke, Innovyze
- Jamie Gledhill, Brett Landscaping
- Charlotte Markey, Polypipe Civils and Green Urbanisation

in early 2024. Some of the highlights presented here and on our websites (including a new site collating all of our industry insight: insights.netmagmedia.co.uk/round-tables) are certain to be useful to specifiers, as they address practical issues similar to those covered at the round table. From the need to combine SuDS with public space, to how steep is safe when it comes to natural features, there were some key takeaways for designers.

The changes that can be brought about in developments via stormwater management using thoughtful SuDS approaches is an exciting evolution for the look of future schemes. Far from the tarmac dominated past, the practical need to deal with stormwater while also aiding biodiversity goals, will see SuDS schemes producing natural features in the heart of developments which will ultimately provide a level of unprecedented 'greening.' While there are major challenges, as explored by our round table, there are also many reasons to be enthusiastic in pursuing these new approaches.

We were fortunate to be joined by a great group of people









COLLABORATION IS KEY

Sue Illman of Illman Young landscape architects discusses the realities of SuDS with Matt Clutton of Cameron Homes

to discuss this important but specialist area – landscape architect Sue Illman is well known in the industry as a SuDS champion, and for engaging with construction sectors in her role as the Construction Industry Council's Champion for Flood Mitigation and Resilience. She was also co-author of the SuDS Manual which CIRIA produces and updates, and is regarded as the 'bible' for designing such schemes.

The Environmental Protection Group (EPG) is a firm of engineers who specialise in 'geo-environmental' engineering, and its technical director, Steve Wilson, is, like Sue, a long-standing purveyor of practical SuDS solutions in a host of developments, and they both train construction industry professionals on design aspects of SuDS.

From the housebuilder side, we were delighted to have Chris Carr return from our previous round table, having been promoted to FMB National President. He runs his own housebuilding company and was forthright in advocating for SME builders grappling with several acute business challenges currently, of which SuDS is just one. Our other housebuilder in attendance was Matt Clutton from Cameron Homes, a medium-sized firm building highend developments across the Midlands and north; Matt combines engineering expertise with a housebuilder's business outlook, and therefore could offer crucial practical insights.

Martin Shaw is senior operations manager from Meadfleet, an open space management firm which acts as 'landscape partner' for housebuilders across the UK. He views SuDS from the operational side and helps residents engage with and understand what are potentially unfamiliar features in developments.

From our sponsors we welcomed Ruth Clarke, innovation manager at Innovyze, which develops design modelling software to engineers and consultants working on SuDS schemes. Jamie Gledhill is technical engineering manager from Brett Landscaping, and was a strong advocate for permeable paving. Last but not least, Charlotte Markey, green urbanisation innovation manager at Polypipe, donated her expertise to the round table as a PhD researcher and promoted a wide-ranging 'systems' approach to getting SuDS right.

"Education [of customers] could sometimes be seen as lecturing, in this case it's really positive"

Chris Carr, FMB national president

The Debate

The Government's 'Plan for Water' has a stated aim to see "nature-based solutions used, where appropriate." But what are the best SuDS strategies for housebuilders to take, in order to create the most appropriate schemes in each setting? Collaboration between architects, landscape architects, engineers, housebuilders and planning authorities is the key, but is achieving this an obstacle in itself?

The first session of the round table focused on the general objectives and benefits of SuDS, but quickly saw delegates delving into some of the obstacles (some of which may be imaginary!) for achieving holistic schemes. The attendees discussed the Four Pillars of SuDS; CIRIA's core benefits, seen as 'must-haves' for installations to be deemed a success.

Firstly, water quantity – tackling stormwater via slowing its progress as close to the source as possible, rather than removing water quickly from site using pipes. As a SuDS expert, landscape architect Sue Illman told the group, "the whole point about SuDS is to have a multiplicity of features, and that each one, particularly where they're on the surface and involve planting, will by their nature slow that flow because the water will be intercepted as soon as it hits the ground." She added: "The water has to filter through all the below-ground systems, stone, compost and soil, and everyday rainfall will stay in the ground and will probably never leave the site, and the peak flow is slowed."

The second Pillar is water quality – and "different parts do it differently," explained Illman. "For example, a swale is a wet-dry system, the water goes through it, then it dries out, and this process metabolises the hydrocarbons from roads." This is augmented by

"Wherever there have been successful large-scale SuDS schemes internationally is where there have been massive public awareness campaigns"

Steve Wilson, Environmental Protection Group

planted systems whose roots help to control silts and sediments, further cleaning the water supply. Those chemicals which cannot be filtered by planting remain trapped in the soil, rather than entering groundwater reserves.

The final two Pillars are Amenity and Biodiversity – two interrelated benefits of SuDS, firstly the ability of SuDS to provide a whole new public area within developments for residents to see, and use. Nature-based SuDS schemes are a proven way to produce species biodiversity on sites, and thereby help meet the requirement for a 10% uplift in Biodiversity Net Gain on new schemes.

Resident buy-in

We asked all of our attendees to provide a question or comment for the group to tackle. Steve Wilson of EPG suggested that identifying how SuDS contributes to biodiversity was a key issue to assess. Martin Shaw from Meadfleet made the case for including SuDS as not just a functional necessity, but as an amenity in housing schemes, and how features such as swales, filter strips and of course trees add value to residents' lives.

He told the delegates: "As the SuDS systems mature, the visual amenity is far greater than having a concrete basin or channel; we get our ecologists involved to improve the site's biodiversity, in one example in Epping we have linked a balancing pond with a woodland, with native planting trees around it, and have a wildflower meadow next to that, as well as lots of infrastructure for small mammals and birds." He continues: "It's matured into a lovely place where families spend a day out, and we have bat walks. SuDS can become a massively valuable part of the development."

(Chris Carr offered the solution of instead of mown margins around ponds, wetland margins so that water is further slowed, inflitrating into the ground rather than running into the pond.)

Developments can look different to what has traditionally been expected by residents, with longer, wilder grasses which can suggest a lack of maintenance, and produce a stigma. Delegates asserted that education was essential to combat pushback against schemes which are driven by lack of knowledge.

Steve Wilson of EPG said that "from international experience, wherever there have been large-scale SuDS schemes are successful is where there have been massive public awareness campaigns so people are educated about them," and warned that currently in the UK this was "non-existent," so education is in severe need of improvement. "The Government really needs to get to grips with it and make people aware of why it's there."

Is SuDS genuinely a 'win win' for small developers and their customers, and could the Four Pillars be potentially easier to achieve on some smaller semi-rural schemes, than their more spacecompromised urban counterparts?). Perhaps more importantly, who is driving SuDS adoption in residential schemes, are customers so unaware of the benefits that developers have to sell it to them, whether or not there's any commercial advantages for the housebuilder per se?



ENGINEERING-LED?

Steve Wilson of environmental engineers EPG explained that SuDS shouldn't be overcomplicated, and engineers needed to work with architects

Chris Carr posed the question as to whether developer clients should include SuDS as part of marketing to customers, given that his firm "embraces it as a positive." Sue Illman gave the view that it should be included in the booklets which housebuilders tend to provide their customers when they get the keys, explaining features of their new home.

Chris responded that while "education could sometimes be seen as lecturing, in this case it's really positive," due to the host of benefits that SuDS can bring developments. He added: "We have to have a USP as a small builder against the volume housebuilders, but it needs to be "layered with things like open space, biodiversity and the Future Homes Standard, it can't be just an engineer designing for SuDS."

Charlotte Markey questioned whether homeowners "are pushing from the bottom up to get SuDS implemented; we all love something when it's put in, there are loads of case studies of beautiful schemes, but have people aesthetically got used to such a poor baseline that they're not actually demanding it from housebuilders?" Chris Carr commented: "We have to sell it to them," and Matt Clutton from Cameron Homes agreed there is a long way to go with consumer buy-in, given that "a lot of people are moving towards astroturf for their gardens."

Maintenance and who would be responsible is a key issue that was raised several times in the debate – Chris Carr admitted that while maintenance of ponds was straightforward, when it came to long stretches of swales for example next to highways, this was much more challenging. "We might have two or three thousand metres of swale." Martin from Meadfleet said that getting maintenance right is also key to helping residents become more accepting of these new features – he said that regular planting, such as poppies in one recent Meadfleet case study, "shows people that the area is being looked after."

Clients & SuDS awareness

Steve Wilson shared his experience of being called in to train two volume housebuilders' planning and buying teams on SuDS design, "because they recognised the commercial advantage," and how he showed them "that it would be a lot cheaper if you get it right from the start." He added: "They recognised that land take isn't an issue if you design it right, conversely, if you put appalling SuDS in that are 'bomb craters,' it is going to take a lot more land, and probably cost more to build, and people aren't going to like it."

What are the key issues for housebuilders in complying with SuDS in the current context? Procurement is riven with problems, and some planning authorities may be more amenable than others when it comes to creating comprehensive SuDS schemes as part of new developments. Our panel discussed the issues around the hierarchy of decision-making in projects, and the organisational and bureaucratic obstacles that overcomplicate things.

Steve Wilson told the group there were "a lot of artificial organisational boundaries that make SuDS difficult – technically it's straightforward," adding: "What we really need is a wholesale rewriting of surface water legislation." Jamie Gledhill of Brett Landscaping pointed out that the Highways authority were often a major nut to crack in the procurement process, and they "do tend to be the main blockers" when it comes specifying SuDS.

Chris Carr admitted there were issues with accepting SuDS features in highways departments, although it may seem like one of the best locations to introduce them. For example, swales were seen as incompatible with services connections such as street lighting, meaning that two rows of streetlights may not be possible. However he said that this is " because of the issue with energy costs now, local authorities are happy to reduce street lighting."

Is it a myth that SuDS costs more than a traditionally landscaped and road network-oriented scheme? A 2013 Defra study even

"Planners require a certain amount of public space in schemes, but don't include the SuDS feature in that area"

Matt Clutton, Cameron Homes

found that well-designed, landscape-based SuDS should be cheaper than traditional drainage with underground storage, with less pipework. Ruth Clarke from Innovyze asked whether housebuilders "were able to charge more for properties based on the increased amenity, or are SuDS still just seen as a necessity to get planning?"

Land take is the key issue in terms of affordability, as developers have to sacrifice land they could build on to include SuDS, but in theory their developments are more desirable as a result, so there's a balance. But, as Matt Clutton of Cameron Homes pointed out, there's a key problem which planners bring into the picture, by "requiring a certain amount of public space in schemes, but not including the SuDS feature in that area." Therefore, SuDS places a further burden on the land equation, when it could be integrated into the public space calculation. Steve Wilson agreed it was "a real problem, that makes SuDS expensive – we've got to look at multifunctional use of open space."

Collaboration & hybrid solutions

According to our 2022 Industry Viewfinder reader research into architects' views on SuDS, 85% of respondents thought that a



NETWORKING

The event at the Building Centre was a unique opportunity for suppliers of solutions to discuss the key issues with specifiers in this niche field





combination of green (natural) and grey (artificial/engineered) SuDS features was most likely in housing projects.

But did our round table agree that combining green SuDS with engineered solutions in an integrated water management approach was the most realistic solution? Charlotte Markey commented: "It's absolutely fundamental if you're in an urban environment – why are you just doing a blue roof if you can have a biodiverse layer and integrate it with a whole raft of other solutions like tree pits and rain gardens with an engineered approach beneath?"

Sue Illman, Illman Young posed the question: 'How do we ensure that all the built environment professionals fully understand SuDS and the multiplicity of ways that they can be designed into projects?

Why is collaboration between architects and engineers and other professions essential on SuDS, and how to make it happen? Is this part of the answer to making it integral to an overall project design (and include it early in process)? Chris Carr candidly admitted that for his firm, "there is a hierarchy, and landscaping comes at the bottom of it, they have to deliver the best they can with the engineered design, SuDS, highways and everything else; you can't lead with landscaping, it would never work."

He continued by saying "when the engineer's finished, then look at how to incorporate landscaping into it, not as 'individuals in silos.'" He added that "my first priority as a developer is to build a home I can sell, and everything else has to work around that." However, Sue Illman and Charlotte Markey defended the importance of prioritising landscape architecture in the process, Sue asserted: "We do it the other way around," and Charlotte added that it was "hugely frightening that you can't have a landscapeled approach." She claimed that "we are getting used to such a terrible baseline in this country where infrastructure just becomes dominant." Sue added: "It's about understanding flows, and where you need to have your main features, and frankly anyone who understands topography can do that."

Charlotte cited how Polypipe Civils and Green Urbanisation is working with EPG (Steve Wilson from EPG was in attendance), as one example of collaboration, "because we want to encourage a wider raft of solutions." She added that with Schedule 3 being implemented, "hopefully green solutions will be adoptable, but that doesn't mean you have to take a purist perspective." She admitted that using plastic underground for the engineered element of a project "was a legitimate concern," but that greater awareness was needed of the fact that "a lot of companies now don't use virgin plastics, or are looking at alternative solutions." She adds: "In some instances there might be a necessity to combine approaches when you have a lack of space."

Steve Wilson continued the theme, telling developer clients that they should be aiming for a "fully natural system on the surface," but he also admitted that their site constraints "will push you to put some plastic structures in there." He also described how the Environment Agency had precipitated an exponential rise in requirements for storage on projects to account for future climate change-driven flooding, which has climbed to 40%. He said this meant "a massive amount of storage, which could make a project unviable."

However, Charlotte Markey added that "there could be so many instances where shallow tree pit solutions and rain gardens with playscapes could be incorporated to reduce the land take, because people want more for less now."

Engineering out myths

Our delegates some of the perceived myths, and received wisdom around SuDS engineering, such as the so-called '5 metre setback' rule. This states (inherited from old guidance), that no SuDS feature can be placed closer than 5 metres from any building, however Steve Wilson was keen to debunk this belief: "It's not going to affect the foundations; a lot of them these days are piled foundations, and it's not going to make an iota of difference.

A comment was submitted by Dick Longdin, of Randall Thorp landscape architects (who was unable to attend the event) regarding engineering-dominated approaches: "There's often a lack of creative input from landscape architects at the initial design stage, which can result in very engineered solutions, such as 1:3 slopes." The round table debated whether overly engineer-led solutions could mean a risk of a 'pipe to a crater at the end of the site.'

There was general consensus that SuDS can much simpler to get right than many believe, given early collaboration between landscape experts and engineers on schemes. Alternatively if left to engineers, the result can be steep-sided SuDS features schemes

"The whole point about SuDS is to have a multiplicity of features"

Sue IIIman, IIIman Young landscape architects

which work practically but present an eyesore and even a danger for residents. As delegate Matt Clutton from Cameron Homes phrased it in his question to the group, when designing swales for example, "how steep is too steep?"

Sue Illman offered some insight from experience: "What you often get with the engineer's drawings, is 'flat, one in three, flat,' which is not so bad, but one in three is steeper than you think when you actually see it on the ground." Steve Wilson added: "I think you should keep it as shallow as possible, then you can steepen it up if needed, but when you stand at the bottom of something that's 2.5 metres deep and look at a one in three slope it's really steep, it's horrendous." He continued: "So, the deeper you go, the shallower the sides' slopes need to be, which is an incentive to keep the depth shallow."

Matt Clutton offered the developer's perspective: "It needs a lot of input and collaboration, the ground might be sloping, and one side of the pond might be 2 metres higher than the other, so you need the engineers to model it, and then introduce the landscape architects."

Conclusion

The Government appears to be sticking to 300,000 homes per year as an 'aspiration,' at least, and Labour is pledging to build 1.5 million homes. The pressure is on for new developments across the UK, and on developers, to design sustainable drainage solutions (SuDS) that will reduce the impact of those developments on their local area and beyond, and add amenity.

The case for SuDS is clear, they deal with stormwater, clean our water supplies and mitigate the impact of our developments in urban sites. They can also, space permitting, help meet Biodiversity Net Gain requirements and greatly enhance projects for residents. Bringing in the full range of possible solutions (for the full benefits) may be a challenge for many, such as SMEs, as the SuDS becomes mandatory in 2024. However, our round table and its recommendations help support the argument for diving fully into the potential to use SuDS to green developments for everyone's benefit, and some key practical suggestions.

Our event highlighted some remaining gaps in knowledge, including between SuDS aficionados, and industry clients tackling a raft of intractable problems. However, we think our round table was a valuable part of helping plug those gaps. We didn't have time to delve further into issues like whether permeable paving should be considered as a 'natural' SuDS solution, the quirks of water companies demanding certain unnecessary engineering solutions causing more complexity than is needed, but we hope to return to this key issue for designers in future events.

We would like to thank our sponsors, Innovyze, Brett Landscaping and Polypipe Civils and Green Urbanisation for supporting Building Insights LIVE.

RECOMMENDATIONS FROM THE ROUND TABLE

- Sue Illman, Illman Young landscape architects: "I want to make a plea for using wetlands – they are incredibly diverse and people don't use them enough. People should use them much more because they fit your Biodiversity Net Gain, along with your SuDS and attractive landscapes and lots of other things, so you get a big bang for your buck."
- Chris Carr, Federation of Master Builders: "At the moment we are trying to appease everybody, whether it's the highways department, water company or anybody else – just have one policy that covers it all, from rain to sea. There's too much conflict between external bodies, you've got to be a bit more holistic."
- Steve Wilson, Environmental Protection Group: "Proper multi-disciplinary design, where it's a partnership, not one discipline being more important than another."
- Matt Clutton, Cameron Homes: "Education of both customers and planners, where they are segregating out the area that's public open space from the SuDS they need to be combined, which will help with the education because people will be going into the feature to use it, and will see the benefits."
- Martin Shaw, Meadfleet: "The main thing to consider when designing and developing these systems is the lifetime management of them, because they're a legacy for everyone."
- Ruth Clarke, Innovyze: "Everyone being involved at the right time in a project everyone *is* involved, but whether that gets fed in at the right time, and the bigger picture needs to be looked at the adoption by any water company is really key."
- Jamie Gledhill, Brett Landscaping: "Multifunctional design, and incorporating engineering with landscape design – stop calling it 'engineering SuDS,' it's 'designing SuDS.' Like Clive Woodward's approach in England's successful rugby world cup win in 2003, it's 'every one percent that you can add in' – whatever you can add in, it's going to be better in the long term."
- Charlotte Markey, Polypipe Civils and Green Urbanisation: "It's about how you manage an entire system, it's helping people transform their practice through manage those complex systems, but they're not as difficult as we think. It's just having that system approach – if you change something early on, it's going to have a knock-on effect on something else, and we just need to know where we make the changes and how we challenge them."

Polypipe Civils & Green Urbanisation





06 - 08 February Business Design Centre, London



The leading surface design event gets ready for 2024 showing



This year's theme is 'mindful living' which explores the balance between design intuition and analytical thinking

t's that time of the year when preparations are underway for the Surface Design Show, which returns to London's Building Design Centre from 6-8 February 2024. Old and new elements will be featured in this year's line up, such as the Opening Night Debate, a featured Charity Partner and the expert speakers programme, all alongside the 12th edition of the Surface Design Awards.

Mindful living

This year's theme is 'mindful living' which explores the balance between

design intuition and analytical thinking to achieve meaningful experiences. The idea of mindful living will address what role materials and their properties will play in the multi-sensory space; how the virtual and real worlds continue to merge and what technological advancements and investments in new design approaches mean for the built environment. A prominent feature within the theme is Surface Spotlight Live, the material showcase curated by design and trend expert Sally Angharad. Located at the heart of the show, this feature will once again expand your mind on cutting-edge surfaces, processes and finishes that embrace the future and harness the vital role materials play in design across all dimensions.

A further focus within the mindful living theme is the crowd-pleasing Opening Night Debate. It's found on the main stage, where a range of debates, panels, trend forecasts and insights into the latest material innovations will take place over the course of the show. The 'Legends Live' series of fireside chats with experienced industry professionals also returns.

This year's Surface Design Show will see a presentation by Colour Hive entitled CMF Directions 2025. Colour Hive, which has more than 20 years' experience forecasting and publishing design, colour and material insight will host live seminars featuring two diverse stories from their 2025 forecast exploring the 'macro drivers,' colour palettes and material and finish directions.

2024 Awards

The Surface Design Awards are always a highlight of the show, receiving global

recognition and attracting an impressive number of entries from across the globe. The 2024 edition will be judged by an expert panel, co-chaired by Charlotte McCarthy, head of interiors at Heatherwick Studio and Nimi Attanayake, director and co-founder of NimTim Architects. Through discussion and hot debate, the judges will debate the 2024 Award winners from eight categories: Commercial Building, Housing, Landscape + Public Realm, Light + Surface, Public Building, Temporary Structure, Architectural Photography and new for 2024, Product of the Year Award.

A popular element to the show, for those up-and-coming creatives is the New Talent area, curated once again by Jennifer Castoldi, chief creative director at Trendease. This must-visit section displays the very best in emerging creatives, showing an inspiring range of biomaterials, natural materials, textiles, furniture and wallpaper.

New for 2024, Surface Design Show is partnering with a worthy charity called Furnishing Futures. It creates beautifully designed, fully furnished homes for women and children who have escaped domestic abuse and been given empty social housing, often without flooring or



white goods. The charity partners with the interiors industry to provide a sustainable solution to tackle waste, enabling the charity to repurpose good quality exdisplay, returns, props or donated furnishings to create beautiful, fully furnished homes.

Get ready for the 2024 show – a chance to explore the latest in innovative surfaces.

Article submitted by the Surface Design Show

The Surface Design Awards are always a highlight of the show, receiving global recognition and attracting an impressive number of entries from across the globe



Marmox at the Surface Design Show

Wetroom specialist, **Marmox** is returning to the Surface Design Show (06-08 February 2024) with the uniquely flexible Slicedstone range taking centre stage on Stand 425. Introduced to the UK market in 2023, the natural stone veneers offer the adaptability to be applied across uniquely-shaped walls, spa bath surrounds and other features where water resistance is as important as appearance. They follow on from the success of the natural stone mosaics, also launched here by Marmox, offering bathroom installers significant speed advantages when compared to traditional tiling: saving costs on materials and labour. Now designers and tilers are acclaiming the ultra-slim sandstone sheets that are available in two sizes – $1,220 \times 610 \text{ mm}$ and $2,100 \times 1,050 \text{ mm}$ and weighing between 2.5 to 3.0 kg/m^2 . Slicedstone offers low moisture absorption and features a specially formulated decoupling layer meaning sheets can be applied to curved surfaces both indoors and out.

sales@marmox.co.uk www.marmox.co.uk

SURFACE DESIGN SHOW STAND 425



Rehau to showcase excellence in surfaces

REHAU will be presenting new products and services for architects and designers on its stand at Surface Design Show 2024. As the company celebrates 75 years in business and ten years in surfaces, it will be showing visitors how it is 'Enabling Exceptional Design' for its customers. It will be showcasing its innovative RAUVISIO surfaces, which combine functionality with durability and limitless design possibilities. For kitchens, bathrooms, living rooms, offices, restaurants and retail, REHAU surfaces are guaranteed to help designers provide hygienic, durable and inspirational spaces. The RAUVISIO product family of surfaces, which will be presented at the Surface Design Show, includes the collections: noir, noble matt crystal, crystal mirror and grip. RAUVISIO noir is inspired by the noir film genre and features daring, show-stopping designs which elevate wooden elements, ceramic backsplashes and marble countertops, creating combinations that are unexpected, beautiful and elegant. RAUVOLET tambour door systems will also feature on the stand, including the new noble matt range, which is matched to the corresponding surfaces.

UKenquiries@REHAU.com www.rehau.com/uk-en

SURFACE DESIGN SHOW STAND 221

future of the built environment

05 - 07 March 2024 ExCeL London

Be part of the change at Futurebuild's 2024 conference



Featuring a line-up of the who's who of the built and natural environment, each speaker will use the conference stage to take a stand for change, in order to tackle the big climate and ecological issues The Futurebuild Conference 2024 is returning to London's ExCeL from the 5th to the 7th March 2024, taking place in the main arena. The time is now for serious climate action, and collectively we can make a difference. Through collaboration, we can share our visions and drive positive action.

The Futurebuild Conference is more than just a 'sustainability event,' it's a call to action for change. This respected gathering of influential innovators and collaborators tackles the big issues head on and is inviting all those involved in the built environment to take part in the conference sessions to inspire and drive change, to achieve a better built and natural environment for the long term.

Sponsored by Soprema and One Click

LCA, and curated by the Edge think tank, the Conference Programme is focused on embracing change, with the three daily themes: Pathways to change, Levers for change and Sharing visions for change.

The 2024 line-up

Featuring a line-up that is a who's who of the built and natural environment, each speaker will use the conference stage to 'take a stand for change' to tackle the big climate and ecological issues.

The Futurebuild Conference 2024 will welcome Smith Mordak, chief executive, UKGBC; Muyiwa Oki, president, RIBA; Sara Edmonds, co-director, National Retrofit Hub; Richard Benwell, chief executive, Wildlife and Countryside Link; Caroline Gumble, chief executive, CIOB; and Ramesh Deonarine, team leader – built environment, Climate Change Committee.

Also speaking are Danisha Kazi, head of economics, Positive Money; Sam Burdett, carbon manager, Skanska and co-founder of ZERO Next and education co-lead, ZERO, alongside Helen Fadipe, vice president, RTPI; Ed Lockhart, chief executive, Future Homes Hub, and Paul Morrell OBE, co-chair, Independent Review of the Construction Product Testing Regime.

Other speakers include Flora Samuel, head of architecture, University of Cambridge; Chris Skidmore OBE, MP and founder, Mission Zero Coalition; Julia King (Baroness Brown of Cambridge), chair of the Carbon Trust; Elwyn Grainger-Jones, Cradle to Cradle Products Innovation Institute; Simon Sharpe, director of economics for the UN Climate and author of Five Times Faster; Tim Smedley, author of The Last Drop, solving the world's water crisis. The full programme can be viewed on the website, including speaker biographies.

Be inspired

The aim of the conference, as with the whole Futurebuild knowledge programme, is that attendees should leave feeling empowered and inspired to make changes in their own work.

Commenting on sponsoring the conference programme, Debby Dawson, of sponsor Soprema said: "At Soprema, we believe in building a sustainable future, and our commitment to eco-friendly solutions is at the core of everything we do. That's why we're joining hands with Futurebuild, a platform that shares our passion for sustainable innovation."

Johanna Jarvinen of sponsor One Click LCA added: "The One Click LCA team is excited to be taking part in Futurebuild 2024. Paving the way towards a better built environment is at the core of everything we do, and it will be an inspiring few days surrounded by other organisations and industry leaders who share the same values, wanting to proactively drive the industry forward and change how we build."

Now is the time to take action through



collaborative engagement. We ask you to take part, join the discussion and be part of the transformative change. The aim of the conference is that attendees should leave feeling empowered and inspired

Article submitted by Futurebuild

Gilberts screens low-carbon student accommodation



Air movement specialist **Gilberts** is playing a discreet role in helping University of Birmingham develop its first ever net zero carbon student accommodation. The Pritchatts Park Residence Project sees refurbishment of existing and building of new sustainable residences for students. Central to the Project is Pritchatts House, a five-storey block of 21 flats for 163 students, with its building services provided via rooftop air source heat pumps and solar panels, the latter generating energy for the whole complex. To minimise visual and acoustic impact on the environment, the plant is concealed behind a 2 metre high by 35 metre long acoustic louvre screen. Designed, manufactured and supplied by Gilberts Blackpool, the screen has been installed by Steane Ltd as part of its M&E contract with Project manager Equans. Gilberts worked closely with Steane Ltd to develop the most effective solution, advising its ALS/15 single bank louvre, produced in sections up to 3 metres long to enable craning onto the roof. Only 150 mm deep, the ALS/15 still attains a visual free ventilation area of 50% with weighted SRI (sound reduction index) of 10 dBA.

01253 766911 info@gilbertsblackpool.co.uk

Luceco's Leren at Chester University



Luceco has recently supplied luminaires to the University of Chester Engineering Building. The university originated as the first purpose-built teacher training college in the UK, occupying five campus sites in and around Chester. Luminaires supplied included linear suspended Leren along with recessed 600 x 600 LuxPanels and externally Fortis Wall packs. Offering both upward and downward light distribution, particularly where there are high or open ceiling voids to illuminate, Leren was suspended to meet the requirements of the teaching spaces. Supplied complete with adjustable wire suspensions, Leren benefits from through-wiring, including electrical connectors as standard, to assist with both standalone and continuous run installations. Accessories available include ceiling mount electrical connection rose and blanking modules in 600, 900, 1,200 and 1,500 mm lengths. Featuring a slim aluminium extrusion and offering superior quality lighting specifically optimised for the educational setting, Leren is available as fixed output, DALI dimmable, emergency back-up variants, PIR and Luceco wireless lighting controls including Platform and Elevate.

01952 238100 www.luceco.com/uk

Why do the world's leading dance universities and schools choose Harlequin floors?

D ance students can spend hours working in a dance studio, it is their place of work and should offer a safe environment fit for purpose. The floor is a dancer's most important work tool and dancers need reassurance they are not going to slip and fall, that lifts can be performed safely and on landing from jumps the response of the floor consistently returns the right amount of energy absorption.

It is a common assumption that a welldesigned sports floor will suit the needs of dancers, but this is not the case.

There are some critical factors that distinguish the requirements of dance from those of sports played on a sports floor. Unlike sportsmen who wear increasingly high-tech air-cushioned shoes to give grip and protect against impact injuries, the modest ballet shoe has barely changed in design since the mid-18th century. Made from soft leather, canvas or satin, the ballet shoe is very flexible, has a thin sole and offers little protection for the wearer.

But not all dance floors are the same, only a floor developed specifically for dance will do. There may be a temptation to specify floors for aesthetic or budget reasons, or to specify sports floors in the mistaken belief they will be suitable for dance but there have been some high-profile examples where floors have had to be replaced by a dance company after the building is complete and dancers have their first experience of dancing on the floors.

Harlequin is widely recognised as the world's leading authority on dance floors. As an enlightened manufacturer Harlequin has always worked closely with the dance community to develop floors that dancers



want to dance on. There is no doubt, the choice of flooring is critical. For over 40 years Harlequin has been the performance floor of choice for the world's most prestigious dance and performing arts companies, theatres, venues and schools.

Harlequin offer free advice to ensure dance companies, schools and venues install dance floors best suited to their particular use.

All Harlequin sprung and vinyl floor products and ballet barres are easily found and specified through RIBA Source. Please visit www.harlequinfloors.com for more information, or contact Harlequin.

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BUILDING

SCIENNES PRIMARY SCHOOL EDINBURGH

A class of its own

An ambitious vision for a pioneering CLT Passivhaus primary school building in a historic part of Edinburgh was realised thanks to an open-minded team effort. Clara Garriga from architects Holmes Miller explains all to Roseanne Field





A STONE-CLAD PASSIVHAUS

The extension is the first Passivhaus building constructed in CLT in Scotland, and features stone cladding to blend with the local conservation area

espite its grade-B listed status and general grandeur, Sciennes Primary School – located in the Marchmont conservation area of Edinburgh – was also home to some dysfunctional modular temporary classrooms located in a small corner at the back of the site. Leaking and draughty, an upgrade was long overdue. The end result was a standalone extension that is the first Passivhaus building constructed in CLT in Scotland. Passivhaus certification is expected this month, and depending on timing, this could mean it is Scotland's first Passivhaus primary school too.

Having a long working history with City of Edinburgh Council, architecture practice Holmes Miller was approached by the council to work with them and the school on a replacement. When discussions first started, the school was unsure of what they wanted, beyond the simple need for four new classrooms. "The initial brief really was as simple as 'we've got to replace this with new classrooms,'" explains Holmes Miller project director and the project's lead architect, Clara Garriga. "It could either be another set of modular classrooms, or something a bit more aspirational."

Holmes Miller had worked on several schools with the council previously, and having been impressed with their offering, wanted "an educational space that would carry that knowledge into the Sciennes school as well," Garriga says.

A good space for learning

As a client, the council was very "open minded," Garriga explains, working with the practice and school to develop a brief. "As part of the general works Holmes Miller were doing with the council, we went through a lot of discussions on what a classroom is, what makes a good educational space, what's suitable for children of different ages," she says. As well



as the architects, the council and school, also present in these meetings were interior designers, teachers and headteachers, and staff working in nursery settings. "It was a mix of specialities, all having this open discussion on what makes a good space."

This notion of identifying 'what makes a good educational space' was the key driver and led to the optioneering of possible forms. "The actual shape or form of the classrooms can be very different," Garriga says, "so having a discussion where we get everybody keen to design something that's tailored to different schools and clients is so important."

Holmes Miller were certain that adding more modular classrooms wasn't the answer, and suggested creating something larger that connected with the main building, or a standalone building. Having decided upon the latter option, the team then considered the teaching that would happen within, and looked at the possibility of creating a shared space for the whole school to use, locating the new classrooms in the main building and then relocating elements such as the library into the new building. "It really transpired that what they needed was a purpose-designed 'Primary 1' space," Garriga explains. She refers to the Scottish equivalent of Year 1, which children enter direct from nursery.

Given that Primary 1 children are only four and five years old, it opened a whole new range of discussions. "Primary 1 is so different to what's required as you progress through the years," says Garriga. "It's almost more like a nursery in many respects, it's play-based learning and teaching them to be more independent and confident, rather than a more formal type of teaching." She says that designing for this age group "really gave us the opportunity of opening up the space and creating an open plan, flexible accommodation between the spaces, having a connection between



"We look at the whole school and how it connects rather than a separate unit"

Clara Garriga, Holmes Miller

floors and classrooms."

Despite the initial brief being for four classrooms, the idea of opening up and connecting the space meant the final design resulted in an open plan space with no doors, glazed screens between spaces and a void connecting the ground floor and first floor. "You can really see everything that's happening everywhere in the building," Garriga says. "It makes it feel like one unit rather than four separate classrooms." These open areas offer versatile teaching environments and create a visual connection across the various spaces.

Although Holmes Miller has plenty of experience designing primary schools, Garriga says the Sciennes extension required a different approach, which led to benefits. "Normally when we look at a school we look at the whole school and how it connects rather than a separate unit – it was quite interesting to focus on that here," she explains. "The design really benefited, thinking more about visual links between all of the spaces internally and the void, and making sure light moved around the space."

Practicalities

While an open space made the most sense from a functional point of view for the age of the children, it in turn created a host of challenges. Acoustics in particular was a crucial consideration: "The combination of open plan nature and children yelling is not great!" Garriga says. "The acoustician was involved from day one."

The solutions offered by the acoustician were integrated with the design as much as possible so as to avoid them looking, as Garriga says, "stuck on" - such as acoustic boards that became murals or pinboards. Specifying acoustic solutions mean the classrooms can function independently as well as allowing for more open plan learning. "We have all these hugely absorbent surfaces on the walls and hanging acoustic baffles on the ceilings so we could expose all the services to create a bigger volume while also helping with the acoustics - it was all designed together because we knew who was going to be using the space, and how," Garriga explains.

The building's location at the rear of the school, close to the school's boundary and therefore its neighbours, posed its own challenges. The rear playground on which the extension was built is small, meaning there were a lot of "physical constraints," says Garriga. The original school building is three to four storeys high and therefore completely overshadows the site, but in order to avoid any overlooking of the neighbours the new building couldn't be too high. "We had to keep good distances from the boundaries, the neighbours, and




"The airtightness achieved was largely made possible because of the CLT"

Clara Garriga

the existing school, not just for acoustics but also for fire purposes," she explains. "We then also had to keep a good distance from the original school building, trying not to have windows overlooking, and to keep nice outdoor spaces around the new pavilion and existing school." She continues: "It was an important technical requirement that took a lot of consideration; keeping enough distance to the boundaries while not reducing the playground space."

Planning was also a potential sticking point, with the site's location in the Marchmont conservation area and the original school's grade-B listed status. "Planning was highly involved, especially in the early stages," explains Garriga. "It's a very beautiful area, so the planners were looking for something that wouldn't impact negatively on the context, noting a preference for the pavilion not to be seen from the street. They were very focused on the volume, and avoiding overshadowing and imposing on neighbours."

They designed the building as distinctly modern, not mimicking the original school

but complementing it, and the planning department agreed with this approach. The design solution took cues from its surrounding context, relating to volume and height, such as keeping the horizontal lines level with the height of the terraces along the street. "There was a lot of discussion with planning on how this could sit next to the original building without trying to copy any of the features," says Garriga.

"That really led to some of the design decisions such as the stonework and some of the horizontal lines we picked from the stonework. We tried to keep it quite simple but in dialogue with the original building." Overall, planners agreed the proposal was "respectful of the setting," Garriga says.

Going passive

One thing that impacted the budget and the design further down the line was the decision to aim for Passivhaus certification. Discussions for what to do with the site first began in late 2018, and it wasn't until just before 2020 that the idea was first proposed by the council, who had implemented a policy to consider a Passivhaus approach



for all of their new buildings. "Everything was really pointing at it not being feasible, because of the lack of solar gain and site constraints, but we were all keen to try and do it," Garriga says.

It was to be the first Passivhaus building delivered by not only the council, but also Holmes Miller, and later the contractor, Maxi. "Everybody was really keen to learn and do the right thing," she says, saying that Maxi were "outstanding," such as recording every single penetration through the external walls and photographing it.

During the design stage, the council employed their own M&E team to develop the Stage 4 information, offering informed insights into predicted usage and recommending preferred systems. Throughout the construction phase, the council's team continued their involvement, serving as consultants to assess and validate the work carried out by the delivery M&E consultant and onsite subcontractors. Structural engineers were also heavily involved from early on, offering solutions which responded to this target.

Environmental consultant Sussed

Sustainability was brought in during this phase to support the Passivhaus design and certification process. They played a crucial role aiding the design team in making informed decisions, gathering information, and subsequently offering valuable advice to the site team during construction.

The architects set a target for airtightness of 0.3, outperforming the standard Passivhaus level of 0.6. Ideally, Garriga explains, the designers would have altered the orientation of the building but this wasn't possible due to the constrained site. In order to make up for this, U-values and airtightness were under more pressure. In the end, they achieved a final score in the airtightness test of 0.28, which as Garriga says is testament to the work done. There are "virtually no thermal bridges," she says, with every wall tie, cable penetration and soil vent pipe calculated and thermally broken.

Access is via a single door on the ground floor leading to the shared space between the two ground floor classrooms; it has automatic closers, meaning the impact on airtightness is minimal. "In a nursery it

CLT BENEFITS ON SHOW

As well as contributing to the building's 0.28 airtightness performance and enhancing interiors, each m^3 of CLT used captures one tonne of carbon dioxide



ADAPTING TO PASSIVHAUS

The decision to go for Passivhaus happened during the project, meaning window sizes had to be reduced, but the newly-created sills were designed as bench seating

would be more of a challenge because they want doors open all the time," Garriga says.

The other key aspect that required work following the decision to target Passivhaus was the form factor (the ratio between the building's external envelope where heat can escape compared to the usable internal space). The footprint of the building had to be revised to aim for a form factor of 3.04, which was achieved largely by reducing the height and simplifying the footprint to produce a more compact shape. They also had to reduce the size of the windows to mitigate heat loss, bringing the sills up to a height of 800 mm - originally these had been designed to go right down to the floor to maximise on daylight, in particular to make up for the lack of windows on the north elevation which overlooks neighbours.

Where possible, these required alterations for energy efficiency were turned into design features – the bottom of the windows was brought up and the newly-added sills turned into bench seating. "It was about changing things in a positive way," Garriga explains. "For example, that gave us the opportunity to create seating which offers a variety of uses in the classrooms. The design actually lends itself quite well to that, it's the part of the window that brings in the least amount of light because it's low and the spaces are still bright."

The design had always been predicated on having underfloor heating with an air source heat pump, but the decision to target Passivhaus meant an MVHR system had to be included as well. "That took a lot of coordination with the design team," Garriga admits. All the services were deliberately left exposed in order to not compromise on the volume of the internal spaces. "The whole thing works together because rather than individuals coming in at separate stages we all worked together – including structural engineer, services engineer and interior designer."

Thankfully, although some of the architectural and interior design elements had to be revised, the Passivhaus target was implemented before the technical design had been developed, meaning details such as insulation levels were considered from the start, taking into account heat loss from



elsewhere. They did however encounter some hurdles at this stage where they found that many Passivhaus-certified components were more targeted at the domestic market. For example, the architects struggled to obtain the fire rated window and door components they needed such as panic hardware and push pads, and automatic openings for smoke ventilation.

The decision to aim for Passivhaus came about during 2020, so they also had the added obstacle of trying to source and specify these components and make the design tweaks during the Covid pandemic, meaning face-to-face meetings were impossible.

The windows are all triple glazed and are a combination of timber windows clad externally with aluminium, which are Passivhaus certified, and fire rated windows which aren't Passivhaus certified. "There was some difficulty getting the backup data for those for the certification process," admits Garriga. There are also quadruple glazed rooflights, which "bring a lot of light to the first floor."

Despite certain design elements requiring

altering and redesigning, the layout itself remained unchanged after the decision to get Passivhaus certification. "We got the educational building that we set ourselves from the beginning to have," says Garriga. "Passivhaus is a benefit in terms of the energy usage, but the main driver was building a good educational facility."

CLT's primary Passivhaus benefits

One thing Garriga and the team knew they would use from early on was crosslaminated timber. "We chose it primarily because of the natural finish, internally it would give us the warmth and the space we were really looking for, for Primary 1 education," she explains. The speed and ease of construction was also a big selling point for the team – and particularly important here due to the constrained site. "That brought the least disruption to the neighbours and the school."

When it came to considering the Passivhaus certification, CLT's qualities made it particularly suited for the higher airtightness required. "It's very easy to seal, so the airtightness was largely made

PASSIVHAUS PERFORMANCE

Form Factor: 2.86 Airtightness: <0.6-0.3 ACH Annual heat demand: 15.5 kWh/m²a Peak heat load: 9.0 W/m² Average building fabric U-value: 0.85 W/m²K Thermal bridging heat loss allowance: 5% MVHR efficiency: 84%



possible because of the CLT," says Garriga. "It's also biodegradable, recyclable and has benefits in terms of CO_2 calculations," with every m³ of CLT used capturing one tonne of carbon dioxide.

There were additional considerations, such as the essential issue of fire protection. The practice made two key moves to help reduce the CLT's combustibility – firstly cladding certain parts with non-combustible boards which in turn helps conceal wall services in the internal spaces. In the areas that weren't required by Building Control to be fire rated, the surface still needed to be treated with a matt finish transparent spread of flame coating which they used all over.

With all the CLT prefabricated offsite, with openings for doors, windows and services pre-cut, erecting the frame took two weeks, so disruption was minimal. "There was a really good relationship between the contractor and the school, agreeing certain days when they needed to keep it quiet, says Garriga." The constrained site meant they contractors had very limited space, but they managed to secure part of the street to store materials and place cabins. "The more difficult thing was keeping the school's fire exits open, which meant the space was even smaller," Garriga says.

She adds: "With the landscape architect we introduced a rain garden, which is a really nice feature, and seats and planters, spaces to sit down and grow things."

Conclusion

Looking ahead to future projects, Garriga is passionate about pursuing more Passivhaus-certified schemes – or at least using Passivhaus principles – wherever possible. "It needs to be the norm," she says. "Looking at this type of fabric, the performance and this level of construction." She strongly encourages the use of CLT in particular, but admits it is always easier with a client who "wants to do the right thing."

The project completed in August 2023, so while the practice has as yet had limited feedback and data on the building's performance, Garriga says comments they have heard so far have been positive. "The teachers, children and council have said they love the space," she says. Asked to name her favourite element of the new school building, she chooses the open plan interior: "It is really different from what you get in a traditional school building, it's a special sort of environment."

Defending schools from vandalism and damage

Pollowing a merger of four local primary schools, the community of Port Glasgow, Scotland received a brand new, environmentally responsible education facility. However, the state-of-the-art primary school faced a number of challenges. Other schools in the district had suffered severe damage from wilful fire-raising.

As a heavily funded project, the facilities were at risk of malicious damage along with theft of expensive equipment. A high security alternative to grilles or standard security shutters was therefore required. As the school



overlooks the river Clyde, the landscape lent itself to the building's concept, with sloping roof structures and valley-like subdivides within the playground. The £9.6m project was designed to inspire the children and staff on site every day.

The solution implemented ultimately had to maintain the aesthetic properties without compromising on security or creating a fortress!

As a specialist manufacturer of integrated security shutters, Charter Global, were approached during the early stages of the project conception, allowing the design to integrate with the architecture of the building to give a much more aesthetically pleasing result.

Working closely with Charter Global's design team, the solution took the form of Interg8 structural built in Shutters securing all ground level apertures against unwanted intruders.

The Integr8 structural lintels removed the need for any unsightly head-boxes, and recessed guide rails further reduced the shutters' visual impact. Finished in both



vibrant red and a contrasting blue finish, the shutters are also resistant against the coastal weather and play an important part in the building's bold and striking design.

enquiries@charter-global.com www.charter-global.com/integr8

Senior levels up Leeds student accommodation



A trio of innovative aluminium solutions from Senior Architectural Systems were used for the Terry Frost Building, a new £30 million luxury student accommodation development in the heart of Leeds' university hub. The seven-storey building required a robust yet attractive facade, and Senior's SF52 aluminium curtain wall system provided the ideal solution. Featuring a range of benefits including slim sightlines and enhanced thermal performance to exceed current regulations, as well as excellent weather performance and cradleto-cradle recyclability, the SF52 curtain wall system perfectly combines form and function. Senior's popular PURe® range of aluminium windows and doors was also utilised throughout the development's exterior facade. This revolutionary range features an expanded polyurethane thermal barrier for exceptional thermal performance, Part L compliance and ultra-low U-values. The PURe® aluminium windows and doors are compatible with each other, as well as Senior's curtain walling systems including SF52, for a seamless finish. Senior's products were fabricated and installed by specialist contractor Elite Aluminium Systems Ltd.

01709 772600 www.seniorarchitectural.co.uk

Growth in moveable walls for university lecture theatres



Demand for moveable walls from universities has grown in recent years with many looking to modify their lecture theatres to create more adaptable space. Michael Porter, **Style's** group sales director reports that large lecture theatres are often underutilised with only a single class being taught at any one time. "Universities regularly find their lecture theatres are only filled to 50% capacity or less," said Michael."For this reason, we have seen a rise in demand for moveable walls that can cope with a stepped lecture theatre or very large, high-ceilinged rooms, enabling staff to rapidly divide the space into two separate lecture theatres and run concurrent classes, thanks to the high acoustic divide."

Style is UK's leading moveable wall specialist, involved in many universities which have benefitted from the installation of either a vertically rising moveable wall, or a horizontally sliding wall, both which can be moved into position to sub-divide a lecture theatre into two entirely separate rooms.

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Texts to construction industry mental health helpline double in the last 3 months

A construction charity has seen a 105.5% increase in messages to its text helpline after the launch of an initiative to take the mental health message to construction sites and estates teams across the UK.

Hays, the construction recruitment specialist, joined forces with the charity Band of Builders (BoB) in October, taking the lead on visiting sites and reaching out to both bosses and operatives to discuss tackling the industry's mental health crisis and signposting support that is readily available, free and easy to access.

In the last three months, the Hays team has visited more than 500 sites – with the company pledging to continue visiting more construction sites and estates teams in 2024.

The push to raise awareness has prompted a 105.5% jump in messages to the text line launched by BoB to help tradespeople and construction workers – a worrying number but evidence that more people in the sector are seeking help.

The latest figures from the helpline show that texts about depression, financial difficulties or relationship issues accounted for 52.9% of messages. Thankfully, the number of cries for help from construction workers considering taking their own lives has decreased from 30.4% to 13.1% in the last three months.

The stats come at a notoriously worrying time of year, with a spike in calls and messages from people in construction seeking help – where the suicide rate is significantly higher than in other sectors.

BoB CEO Gavin Crane praised Hays' commitment to taking the mental health message to sites as part of the services it offers to managers and candidates it places in temporary or short-term contracts.

"Hays is uniquely placed to take the mental health message to sites, and the fact that the number of messages to our text



service has more than doubled in the last three months highlights the impact they are having in signposting members of the construction community to that all-important first step in asking for help," he said.

"It's vital to keep signposting where construction worker can get help if they are struggling with their mental health: they can text BOB to 85258."

bandofbuilders.org

OWA UK delivers its biggest contract to date



A stunning suite of high performance ceiling and wall acoustic solutions from **OWA UK** has been specified for the University of Birmingham's new landmark Molecular Sciences building, with the manufacturer collaborating closely with the project team of Associated Architects, Morgan Sindall and

specialist contractor Titan Interior Solutions. The manufacturer's comprehensive product range enabled the project team to devise tailored solutions to meet the different acoustic requirements of the building while creating a consistent and stylish aesthetic.

enquiries@owa-ceilings.co.uk www.owa-ceilings.co.uk

Structherm proudly announces award



Structherm proudly announces the INCA Winners Award for the successful 18-month renovation of the Glasgow Green Boathouse. The revitalised Grade 2 listed building, on the River Clyde bank, utilised Structherm's Structural

External Wall Insulation with textured silicone finish and replication of existing architectural features such as quoins and dragon head balconies. The exterior wall was stripped to the timber frame to allow repairs to the foundations and timbers with the Structural External Wall Insulation panels installed to enhance frame stability.

01484 850098 www.structherm.co.uk

Simplifying the specification process



As a leading manufacturer of rainscreen support system solutions, SFS works to simplify the specification process with online tools and calculators to assist and guide the user from the early stages of design. The online

tools help designers and specifiers to do this by asking a series of questions. Generally, these online tools will then email the designer with a potential solution within a few working days. There are many to choose from including SFS's Project Builder and Thermal Builder tools. The market also includes software that can provide calculations within 24 hours and project-specific static calculations.

uk.sfs.com

Leading experts in waterproofing projects



When it comes to high-profile commercial waterproofing projects, **Newton Waterproofing**, one of the UK's leading designers and suppliers of guaranteed waterproofing systems, is the renowned choice. Newton offers tailored solutions for commercial projects of any scale.

Their waterproofing systems are well-suited to meet the specific requirements of commercial projects. They have been employed in properties including the Grade I listed Cambridge House Luxury Hotel in London, an exclusive new-build residents' club in Earls Court, and the Hotel Football hospitality project in Manchester.

01732 360 095 www.newtonwaterproofing.co.uk

In support of brick's appeal

Bricks, in conjunction with innovative masonry support systems, are building on their appeal as architects increasingly specify them across a wide range of new buildings. IG Masonry Support's Andy Sharlot explains



More ordern brick slip products enable the creation of bespoke brickwork detailing around windows, doors and soffits, and intricate patterns that blend seamlessly throughout a facade, creating an aesthetic that is stand out, rather than staid. Brick has a timeless appeal as a go-to building cladding material, and here we highlight how its potential to fulfil the most far-reaching architectural ambition is only limited by a designer's imagination.

There is a saying: 'form is temporary, class is permanent.' This implies that something of real stature will never lose its quality, and this is certainly the case with brick. One of our oldest, most traditional building materials is undergoing something of a renaissance, as designers become aware of its ability to provide great kerb appeal, as well as long-term structural integrity.

The return to more durable materials such as brick and stone comes at the expense of solutions such as render and cedar cladding. For a time, these more modern systems were viewed as a quick and effective method of creating an attractive looking facade but as property owners will testify, it only takes one or two wet, inclement UK winters to render them far less desirable. Thus brick's recurring appeal, as seen in Britain since Roman times; its excellent weathering properties ensure buildings will look as natural and impressive many decades post-construction.

The additional remedial work and maintenance incurred to keep a non-brick facade looking attractive does not play well in terms of sustainability. It results in more energy usage, material wastage and cost. But it's brick's evolution as a conduit to buildings that inspire, as well as protect, that is finding increasing favour with designers. In the previous century, pragmatism took precedence in brickwork design, with large swathes of the UK's housing stock bearing a homogenised look. While speed of delivery, rather than aesthetic quality was doubtless a priority when reconstructing towns and cities as part of the post-war housebuilding boom, Britain's building supply chain was not availed of the technology and tools to veer far from a one-size-fits-all approach to larger scale projects.

Masonry support – constructing a new era of brickwork design

The development of masonry support has propelled brick to a new stratosphere in terms of design possibility. The advance of brick slip soffits for instance, means modern shadow and lighting techniques can be used to ingenious effect and create wonderful





buildings with the material some may have once dubbed 'boring old brick.' Facades varying in colour, texture and incorporating complex patterns and designs, are now de rigeur for architects with a penchant for masonry's evergreen appeal.

Keeping pace with regulatory changes has been crucial to masonry support facilitating the rise in brick's popularity. For example, the ban on combustible materials for buildings over 18 metres has led to innovations in brick on soffit systems to enable their use in high-rise applications. A BBA-Certified Brick on Soffit System (B.O.S.S.) is available that's developed to be a non-combustible specification solution for architects wanting to add depth and contemporary visual flair to a masonry facade. The system is a gift for creating stunning brick soffits, deep reveals and flying beams with a wide range of bond patterns.

Such prefabricated solutions, whereby brick slips are adhesively bonded and mechanically fixed to a cement particle board, have significantly reduced the time and effort it takes to deliver buildings that are exciting to the eye. Lighter than equivalent concrete units, support systems of this type can result in a smarter, faster installation process that negates the need for mechanical lifting.

Masonry support's progression is helping reframe brick in the hearts and minds of architects. In doing so, it is aiding the creation of a more characterful environment, and one that is increasingly leaning on brick's timeless qualities to produce projects that are a perfect commemoration of modern and traditional building styles. Such applications are reasserting brick as a classic building material; classics never go out of style.

Case study: easyHotel, Oxford

IG Masonry Support supplied a full layout of custom brick slip systems, lintels and ancillary masonry support for the redevelopment of an easyHotel in Oxford. The products were not only crucial as a means of structural support, they were integral to achieving the architect's distinctive design for the refurbished building, which featured striking brick bond patterns and bay-type windows.

Selected by Brickwork Contractor, Acheson Construction, we supplied the support system enclosures and ancillary masonry products were supplied for this project. Each solution was prefabricated, thus ensuring their suitability for the building design's most challenging aspect – an unusual corbelled outset pattern that needed to have an amount of variation.

The design services provided for this project not only ensured that the masonry support blended seamlessly with other suppliers' products, but that the systems were delivered ready-made to simplify and speed up the installation process. Lastly, the client saved costs by eliminating the need for masonry support at specific levels of the building.

Andy Sharlot is chief designer at IG Masonry Support The development of masonry support has propelled brick to a new stratosphere in terms of design possibility

In-house expertise a driving force behind success



As a BOPAS Accredited light steel frame specialist, Frameclad has an advanced offsite manufacturing infrastructure underpinned by customised digital technology. But Joint Managing Director Nik Teagle considers it's the firm's in-house capabilities that's the driving force behind their success.

Don't get me wrong, manufacturing and digital construction technology is massively important but with Frameclad, our strength lies in our people and the technical know-how within the team. From standard infill systems and off the shelf sections to vast medium rise bespoke light steel loadbearing developments – every project gets the same exceptional quality as standard, but it is our unrivalled customer service that sets us apart.

Transitioning from a merchant to a light steel manufacturer more than 15 years ago, we operate from two adjacent factories in Kingswinford with a combined area of 50,000 ft^2 of factory and office space.

Substantial investment in six cold rollforming machines, supported by customised Tekla software, produces one of the largest ranges of steel sections available in the UK today from a single manufacturer. But it's our investment in in-house expertise that drives our business forward and keeps us ahead of the curve.

Design and Consultancy Solutions

In spring 2022, Frameclad acquired Design and Consultancy Solutions (DACS) and has a 12-strong team of designers and engineers based in our office in Teesside. Providing cost estimates within 10 days and detailed designs within one week – our in-house team has the ability to make swift decisions and go that extra mile to meet rapid turn-around times.

DfMA – Design for Manufacture and Assembly is at the very centre of every offsite project, so we believe having total control over the manufacture and design elements – is essential. Our design and engineering team work in total synergy with our client's architects to ensure a cost effective, safe and sustainable solution – that will not only be robust and reliable but is also practical to install. One project that demonstrates this, is the Chocolate Factory.

Pick and Mix Steel Solutions

The development in London's Wood Green takes its name from the old Barratt & Co confectionery factory that once stood on the site. We are responsible for delivering the secondary structural framework, from design and engineering to fabrication and on site delivery. Block E2 is being transformed into 71 apartments and nine duplex houses – with the structural steel frame now due for completion.

The Chocolate Factory development combines infill light steel for the building's lower floors and panelised loadbearing frames are used to construct the top storey on the sixth floor, with only minimal requirement for structural reinforcement. When it came to detailing the loadbearing frames of the top floor, the large panel sizes definitely presented us with a challenge from a logistics point of view. We overcame this by carefully considering the size and weight of the individual frames and how these could be loaded onto lorries and transported to site safely.

This is where our investment in Tekla Structures software came in. With our inhouse skills supported by digital technology, the design and engineering team were able to identify the weights and centre of gravity for each component, carrying out checks and generating reports. This was a massive help in ensuring we didn't encounter any roadblocks further down the line, with potential problems being identified at an early stage.

Building Information Modelling (BIM) offers the ability to check, verify and compare information in a digital environment to ensure it is correct, before progressing to fabrication. For the light steel frames on the ground level to fifth floor – a clear benefit of the constructible modelling software was the ability to break down the individual steelwork using the user-defined attributes.

This meant that we were able to automatically sort the steel by phase, floor and zone – with the ability to easily filter and sort the information needed at a specific time to generate fabrication reports, and efficiently phase manufacture and delivery of the steel framing solutions.



Once fabricated, each piece of steel also had a unique code stamped on it detailing the specific zone, floor, profile size and



steel length. The site team could therefore easily identify the location for each piece of steel. All of this made for quicker and more organised fabrication, delivery and assembly processes – facilitating just-in time deliveries.

The framework for Block E2 is due for completion and is the result of another successful collaboration with an upand-coming contractor Formation Design & Build Ltd. The Chocolate Factory development as a whole is expected to be completed by early 2024.

Frameclad

Frameclad supply a complete range of loadbearing and non-loadbearing light steel framing systems and sections to the construction industry across the UK. Backed by BOPAS Accreditation to design at full scope, NHBC SCI, Infill and CE Certification, Frameclad has also invested in a growing suite of fire test and performance data to offer assurances to main contractors, architects, engineers and public sector clients. With a can-do attitude and in-depth technical knowhow, they are keen, fiercely competitive and are considered trailblazers within the light steel sector. For more information please visit the website.

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Once the Delta HLA Plus has been registered to the Delta Pumps App, key users will have access to real-time analysis of their pumping stations (from homeowners to installing contractors) enabling service, maintenance, or repair requirements to be detected and implemented at the earliest stage.

The Delta HLA Plus also provides live performance data on pump station activity.

Key Features of the Delta HLA Plus:

- Instant real-time monitoring to spot potential failures before they make any impact.
- Gain real-time insights into your basement drainage system's performance.
- Records sump pump activities.
- Faster communication during emergencies and other critical events.





- Sending visible notifications to users in real time.
- Indicating if there is mains power outage.
- Indicates battery life.
- Indicating that a high-water level situation has occurred.
- Indicating when a service or routine maintenance is due.
- Indicating changes in pump activity (frequency and duration).
- All live performance data visually shown on Delta Pumps App.
- Delta Pump App identifies multiple pump stations on one site.
- A Fully downloadable CSV* "history" *(CSV -Comma Separated Value – Data files)

Stay ahead with smart support

The Delta HLA Plus offers maximum peace of mind at all times.

The Delta HLA Plus has both proactive and preventive functions. Real-time analysis of your pumping station enables service, maintenance, or repair requirements to be detected and implemented at the earliest stage.

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The art of perfect transparency from Hörmann UK



Hormänn UK have announced an exciting addition to their market leading range of sectional garage doors, the ART 42 Vitraplan which offers an eye-catching blend of transparency and reflection. Featuring surfacemounted, flush-fitting grey glazing panels the door provides the perfect design choice for exclusive, modern residential architecture. The ART 42 Vitraplan has been developed for the domestic market from a similar Hörmann industrial door which is widely used in high-end car showrooms. It is an elegant aluminium frame sectional door with concealed frame profiles in RAL 9005 Jet black. The large surface-mounted, flush-fitting grey glazing panels provide maximum light creating a modern, showroom style garage door combined with all of the market leading features and benefits of a traditional Hörmann sectional door. The glazing panels feature the unique Hörmann DURATEC scratch-resistant finish. DURATEC is an innovative surface coating, which protects the glazing panes from scratches and damage caused by cleaning and environmental conditions over the long-term, helping to guarantee a permanently flawless appearance.

01530 516868 www.hoermann.de/en/innovations/detail/show/aluminium-frame-door-art-42-vitraplan

How rooflight specification can help deliver the Future Homes Standard earlier



High-quality residential developments are no longer defined only by their location and standard of finish. Stunning architecture, luxurious interiors and high-end amenities are still expected, of course, but there is something else to add into the mix: sustainability. A new home or high-rise development doesn't have to be labelled as an "eco home" to be part of the sustainability conversation. Whether driven by the client, the architect, or the two working in collaboration, better standards of energy efficiency and comfort, along with healthier interiors, are now normal aspirations. The blank canvas of a new project offers the opportunity to deliver much more than the minimum standards required by building regulations. Project teams now routinely look to the promised Future Homes Standard – not due to be implemented until 2025 – as a benchmark for performance. As a component of the building envelope that must balance energy efficiency with providing natural light and views out, rooflight specification plays a big part in whether that benchmark is achieved. Visit **Glazing Vision's** website to find out more.

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Openings for a net zero future

The UK Government has proposed the Future Homes Standard to ensure new homes built from 2025 will produce 75-80% less carbon. Chris Armes from Liniar Design & Development offers advice on choosing windows and doors for low carbon development projects which will meet the standard

From 2025, new residential and non-domestic buildings will need to be much more energy efficient, producing significantly less CO_2 emissions than current standards permit. Within the fenestration industry, U-values are widely used as a measure of window energy efficiency, with a lower U-value meaning better thermal performance.

Details on the regulations are still unknown, but experts are predicting whole-window U-values could be set at 0.80 W/m²K – a drastic change from the current standard of 1.6 for windows in new buildings. Additionally, replacement element requirements (including windows and doors) in existing buildings are also being looked at in terms of energy performance, with the industry waiting in anticipation for an update. Consequently, refurbishment projects will inevitably be required to adhere to more stringent energy efficiency regulations over time.

Whole-window U-values add together heat loss through all major components of a window – the frame, glazing, and spacer bars – and it's important to consider the performance of each element to avoid reliance on cost-prohibitive add-ons. When a supplier claims a low U-value, it's advisable to check how this is achieved. For example, is it through a combination of highly efficient components, or is the performance reliant on an expensive, nonstandard element such as quadruple glazing or Krypton-filled glazing units?

Considering how a window or door achieves its U-value will help ensure you choose products that deliver the required results in a cost-effective way, making it easier for developers to stay within budget.

Innovations in window technology

PVCu has emerged as a highly insulative, thermally efficient material since the 1980s, making it a popular choice for window frames. While the imminent stricter energy efficiency standards will push the limits of PVCu's former performance capabilities, British companies have been designing innovative new products, supporting the push to net zero, with products already available and being utilised in projects nationwide.

A major benefit of PVCu frames is the ability to exploit one of nature's best insulators – air! By using a multi-chambered design, PVCu window frames trap air inside, creating a thermal barrier that reduces heat transfer and improves energy efficiency. Crucially, the deeper the window and the more chambers inside the frame, or profile, the better the energy performance it can achieve. Furthermore, PVCu is fully recyclable at the end of its useful life and means whole life carbon reductions on top of energy savings.

Over the years, a depth of 70 mm has become the standard width for domestic PVCu window profiles. However, the industry has now seen the development of 90 mm deep multi-chambered window systems, such as a Liniar range which is capable of a 0.66 U-value with triple glazing, using standard Argon-filled panes of glass. This particular system also offers a retrofit solution, which is ideal for refurbishment projects where 70 mm windows are being removed.

PVCu windows delivering this level of energy efficiency are not only Future Homes Standard-ready, but are also entering the range of being Passivhaus certified – an energy efficiency specification becoming increasingly mainstream in the face of imminent regulatory changes and a move towards net zero communities and low carbon homes.

The Passivhaus standard

Passivhaus is a set of eco-friendly, performance-based design criteria which



Experts are predicting whole-window U-values could be set at 0.80 W/m²K – a drastic change from the current standard which is 1.6 W/m²K for windows in new buildings







ensure compliant buildings achieve a superior energy performance standard. Rigorous design and construction methods integrate the five principles of robust windows, high-quality insulation, airtightness, heat recovery ventilation, and the elimination of thermal bridges (areas in a structure that allow excessive heat transfer in or out).

In 2022, Mansfield District Council commissioned four ultra-low energy homes for social housing rental with the aim of achieving Passivhaus accreditation. Mansfield council is proactive in its green agenda, with a target to halve emissions by 2030 and reach net zero by 2050. Passivhaus-certified windows must achieve U-values no greater than 0.80 W/m²K. Liniar's 90 mm system was specified for the Saundby Avenue project, which went on to successfully achieve Passivhaus accreditation – the first buildings of their kind to be developed for social housing.

Noise reduction benefits of deeper PVCu profiles

Another benefit of choosing windows made using deeper PVCu profiles is that

when combined with triple-glazed units they can offer enhanced noise reduction. This is particularly beneficial for architects and specifiers developing properties in urban areas or other locations where noise pollution may be an issue. A comparable 70 mm window reduces external noise by 33 decibels (dB) compared to a tripleglazed, 90 mm frame's 42 dB.

Preparing for a net zero future

As energy-efficient housing takes centre stage and regulations continue to tighten, architects and specifiers must have access to innovative products that can help to futureproof their developments.

British-designed PVCu window systems capable of meeting more stringent energy efficient standards are beginning to enter the market. Nevertheless, manufacturers must be clear about how products are achieving their energy performance so that specifiers can make well-informed decisions and choose the most cost-effective solutions for their projects.

Chris Armes is director of Liniar Design & Development

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fenestration. The paint samples, which are taken all the way back to the substrate material, are referred to a laboratory, where any result above 1.0% Lead percentage by mass (Pb) requires precautions to be taken, as per the HSE Control of Lead at Work Regulations.

asws.co.uk

W40 steel profiles an ideal match



The versatile W40 window profiles, specifically developed by the **Steel Window Association (SWA)** for its members, are a stylish and modern solution that suit both new-build and refurbishment applications. While the classic W20 section continues to be preferred by conservationists and

many property owners for early 20th century and older properties, W40 exemplifies how steel fenestration systems have kept pace with modern tastes and technical demands, while retaining key attributes such as strength and excellent daylight transmission.

www.steel-window-association.co.uk



Automatic door servicing solutions

With wet and windy weeks ahead, it is important to regularly service your automatic entrance system to ensure it continues working at optimum efficiency, whatever the weather throws at it. With a nationwide team of in-house trained engineers, **TORMAX** can deliver a full service and maintenance programme, or one-off emergency repairs, for almost any automatic door. "At this time of the year it is especially important to schedule a service call to make sure your automatic door remains legal, safe and fully operational at all times," explains Simon Roberts, MD for TORMAX UK. "A build-up of debris, dirt and leaves, or an ingress of water during heavy rainstorms, can affect the performance of the system or even cause the door to fail entirely. A comprehensive service call-out can quickly pick up any potential problems, avoiding long-term damage to the system whilst also providing timely maintenance to maximise the performance of key mechanisms."

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Sika's External Wall Insulation system specially commended at INCA awards



Sika is thrilled to have been awarded the prestigious Judges Choice – Special Commendation accolade at this year's Insulated Render and Cladding Association (INCA) Awards. The Building Finishing team was recognised for the complex External Wall Insulation (EWI) system designed for the iconic Selfridges building in Birmingham. The Judges Choice – Special Commendation award is presented to exceptional projects and it's clear to see why the Selfridges building, an iconic part of the Birmingham cityscape for two decades, impressed the INCA Award judges. Its unique curved facade, comprising of 15,000 individual anodised aluminium discs, and areas where the walls blend seamlessly into flat roof sections, added to the complexity of the facade refurbishment. Sika created a bespoke EWI system design using a roofing grade insulation board along with high impact, standard and specialist mesh. The SikaGard 675 liquid coating was colour matched to the building to ensure the facade stayed true to the original design. The INCA judges were impressed with the "quality of design and installation versus the complexity" demonstrated by Sika.

01707 394444 www.sika.co.uk

Q West facade project completed with Mapei repair system



Mapei mortars, coatings and paints have been used to complete a facade repair project at Q West – a serviced office and studio complex close to Heathrow airport. During the repair phase, Mapefer 1K anti-corrosion cementitious mortar was applied over steel reinforcement rods. Two shrinkage compensated repair mortars were specified to repair and smooth surfaces: Mapemortar HB R3 was used as the main replacement of concrete and rapid-setting Planitop Smooth & Repair R4 – a thixotropic, fibre-reinforced cementitious mortar – was applied to areas below 10 mm for smoothing out. This was followed by application of Elastocolor Paint – a protective and decorative elastomeric, anti-carbonation coating, with crack bridging protection. Malech – a water-based acrylic undercoat and bonded primer – was then applied to create a smooth finish. Repair of the Asphalt surface was carried out using Purtop Easy coloured waterproof polyurethane resin and Mapeflex MS45 – a painted hybrid sealant and adhesive used to seal and bond the surface.

info@mapei.co.uk www.mapei.co.uk

Sto helps refurbished homes shine brighter and greener



A refurbished housing development is benefiting from an aesthetic, energy-efficient exterior thanks to a **Sto** external wall insulation system. Located in Bordon, Hampshire, The Pines features 96 former Ministry of Defence (MOD) properties, which have been transformed into modern two to three-bedroom houses and maisonettes. The refurbishment has been completed by Project Worx Ltd on behalf of Annington, one of the UK's largest private owners of residential property, most of which is occupied by military families. Square 1 Architectural Solutions specified and installed the StxTherm Robust external wall insulation system to the exterior of the existing properties. Ideal for low to medium rise housing, StxTherm Robust prevents heat loss and eliminates thermal bridges to enhance energy efficiency. By insulating the outer leaf of each property, the entire structure becomes warm and dry, reducing the risk of condensation and associated mould growth. The installation of the system was completed with a final coat of Stomix Silkotex HD render. This cement-free, silicone resin render is available in a variety of colours.

0330 024 2666 www.sto.co.uk

Proctor Air® added to next generation products at A. Proctor Group



Innovation has run through the Proctor family since its earliest records, and since taking over in 2012, Managing Director, Keira Proctor has continued this tradition, building on this foundation of trust, honesty, and hard work from the very same desk where her father and grandfather made it the company it is today. The **A. Proctor Group Ltd** has been at the forefront of pitched roofing membrane technology for over 25 years. 25 years working with partners across the construction industry, helping to evolve standards, and delivering quality results on projects across the UK and around the world. Proctor Air® is the result of this quarter century of experience on sites and on drawing boards, listening and responding to the challenges faced by the industry. The next evolution of roofing underlay technology; Proctor Air has been developed and manufactured to the company's precise specifications and requirements. This ensures the on-site performance of their material mirrors the off-site performance, while a 15 year warranty ensures peace of mind for any project, now and in the future. The "Air" to the throne has arrived.

01250 872261 www.proctorgroup.com

Colour under consideration

Colour can play an important part in the identity of any building. Here, Elissa Turnbull from Saint-Gobain Weber shares her tips for specifying render

From the brightly colourful houses rendered in Portobello Road, to the traditional Suffolk Pink, colour can play an important part in the identity of a home or building. Compared to some traditional building materials and finishes, rendering can be a cost-effective way to achieve a desired aesthetic.

The versatile nature of render, combined with the range of colours and finishes available, means that it can be used on most properties, no matter the location, to create a home that stands out.

But before choosing the colour, you need to consider what type of render to use. Mineral finishes like monocouche render are created using natural pigments, so the colours will be prescribed by nature – think pastels and earth tones. For something brighter, opt for synthetic products, such as silicone-enhanced textured finishes and paints.

When specifying render, engage with the system manufacturer early in the process as they are best placed to understand how their products can achieve the project's goals and can help with recognising any constraints that will impact how the project looks.

Coloured render & fire performance

Achieving different colours requires different levels of organic content in the render, and organic content is combustible. Light colours like white or cream need less organic content, and in the past, some manufacturers might only have fire tested those colours because they were most likely to pass. Such an approach is clearly not in the spirit of the culture of product safety that's now required.

You should ensure that manufacturers have an appropriate range of colours tested – especially reds and yellows, which tend to have the most organic content.

Be particularly careful, however, if you are thinking of specifying a nonstandard colour for your project. Manufacturers are unlikely to be able to support specific testing of it, due to



prohibitive costs for a single project.

Coloured render & heat & light performance

Something else to look for is the light reflectance value of the colour being considered. A renders ability to absorb heat influences how it will perform in the long term. Dark colours absorb more heat and are at increased risk of potential cracking compared to light colours.

A render's ability to absorb heat influences how it will perform over the long term.

The importance of detailing

Render systems are traditionally low maintenance but, like any other building facade, they are not immune from the gradual buildup of organic growth and dirty deposits.

To avoid any staining on the render, architectural considerations such as drainage, natural water flow and splash zones need to be made. For example, keeping render 150 mm above ground level will reduce any discolouration from Specifying a rendered facade enables architects to achieve design goals, enhance visual appeal, and address practical considerations in a cost-effective and versatile manner







splashing, and generous overhangs are also recommended to both protect the top edge of the render and prevent staining.

To help keep the finish looking fresh for longer, consider extending eaves and window sills to address water run-off.

Ashlars, raised bands, string courses, keystones, quoins and plinths can all be created through the use of thick coat render systems or by building up or cutting back insulation to create these embellishments.

Considerations

It's always a good idea to remain sympathetic to surroundings and location. For example, developments in coastal regions are at much greater risk of exposure to aggressive weather than inland regions. Applying render can help protect and decorate buildings in these highly exposed areas.

Properties in areas close to busy roads will suffer from the effects of traffic pollution, which can leave a dark residue or cause discolouration on external surfaces.

To stop the pollution penetrating the facade, a protective coating could be used to create an additional barrier. Using a highly hydrophobic coating protects render from water ingress, oil and graffiti, as well as dirt, stains and other atmospheric contaminants.

Adding this type of coating does not affect the original appearance of the render and still allows the substrate to breathe. It simply helps to keep render looking better for longer.

Try before you buy

Envisaging how your building will look can be a difficult task, especially when you consider other external features such as doors and windows. Designers and applicators can use a colour facade simulator, such as the one we offer, which is able to show customers exactly how different renders and decorative finishes would look on their building by uploading a photo of the property or using one of the templates.

Specifying a rendered facade enables architects to achieve design goals, enhance visual appeal, and address practical considerations in a cost-effective and versatile manner.

Elissa Turnbull is product marketing manager at Saint-Gobain Weber



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hambleside-danelaw.co.uk

Hambleside Danelaw

TecStone selected for stylish Surrey homes



A regional developer, renowned for designing and building high specification homes in Surrey and beyond, selected cast stone components from the **Haddonstone** range for an enclave of four and five-bedroom properties, where planning conditions were

amongst a number of challenges. All produced in the Portland finish, TecStone elements included gable vents and copings, as well as corbels, window heads, and a vertical radius coping which featured balls and bases to create the appearance of a balcony or jetty. Cast stone date plaques completed the ornate frontage.

www.haddonstone.com

AC Select: The ultimate selection tool



Panasonic Heating & Cooling Solutions has launched AC Select, a new online selection tool designed to streamline the process of choosing and configuring systems from the company's wide range of air-cooled and water-cooled chillers and heat pumps, fan coil units, water source heat pumps, and rooftop units. Designed

for HVAC professionals, the online tool allows users to choose their solution directly from the catalogue or enter the required conditions for AC Select to offer the ideal product suggestion.

acselect.panasonic.eu www.aircon.panasonic.eu

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Samsung Climate Solutions to revolutionise home heating

Samsung Electronics Air Conditioner Europe B.V. announces the official UK launch of the EHS Mono R290 heat pump. The EHS Mono R290 offers cutting-edge technology that enhances comfort and has a low Global Warming Potential (GWP). Several key features make the EHS Mono R290 a future-proof choice for homeowners. It has a remarkably low Global Warming Potential (GWP) of 3. It provides a consistent supply of high hot water temperature, reaching up to 75°C, making the range ideal for renovations and retrofits. Moreover, the EHS Mono R290 boasts an enlarged integral plate heat exchanger capable of transferring more heat at once compared to a conventional outdoor unit, thanks to a heat transfer area of up to 39% larger. It boasts a reliable heating performance, enabling it to deliver a 100% heating performance in temperatures as low as -10°C. It also enables the production of Domestic Hot Water (DHW) at 70°C when the outdoor temperature is -10 to 43°C ambient temperature without using the booster heater, thus saving energy while producing DHW on hot summer days.

www.samsung.com/uk

Hamworthy Heating helps charity to lower operational costs and reduce carbon footprint



When Hull and East Yorkshire Centre for the Deaf needed a modern heating system to replace its existing boiler which was experiencing faults, **Hamworthy Heating** stepped in to provide the charity with the Stratton mk3 wall-hung condensing boiler, free of charge, to help the charity to achieve maximum savings. To evaluate the heating requirements of Hull & East Yorkshire Centre for the Deaf, a site visit was commissioned free of charge by Tucker Mechanical and Electrical Building Services. With cost being a major consideration for the charity, Tucker Mechanical and Electrical Building Services decided that the Stratton mk3 wall-hung condensing boiler system with stainless steel heat exchanger would be the best way forward in helping the charity reduce its carbon footprint and lower operational costs. The selected model delivers an output of 70 kW, a gross seasonal efficiency of 95.5% and features an integral sequence controller, 5:1 turndown and quiet operation. Accessories also supplied include two frame and header kits to increase the overall output of the boiler system up to 140 kW, a plate heat exchanger, pressurisation unit and an expansion vessel.

01202 662 552 www.hamworthy-heating.com

Passivent makes the grade at historic Northumberland Hall

eading natural ventilation solutions manufacturer Passivent has helped breathe new life into the Grade II listed Matfen Hall in Northumberland following an extensive refurbishment programme designed by Doonan Architects.

The refurbishment of this gothic hall, which dates back to 1832, has greatly enhanced this stunning hotel and wedding venue set in the beautiful Northumbrian countryside. Passivent worked closely with specialist building environment and services engineers Skelly & Couch to develop a natural ventilation strategy for the hall's newly covered external courtyards. This led to the use of Passivent's high performance Aircool wall ventilators beneath the striking rooflight in order to maintain a fresh air supply to the enclosed area that has now been created.

In total, 10 Aircool wall ventilators were installed by Passivent's client, J P Westhall, in the lower courtyard, with seven in the



upper courtyard. Passivent also supplied a two-zone iC8000 intelligent controller which monitors the internal and external temperature and carbon dioxide level to allow the facilities team to control the natural ventilation system.

Close collaboration was key to the successful delivery of the ventilation system, with Skelly & Couch working with Passivent very early in the design stage to access the relevant technical product information and calculate the required free area. This information was then passed back to Passivent so the Aircool wall ventilator's aperture could be sized accordingly.

Passivent's Aircool range features both insulated wall and window ventilators that are fully controllable and ideally suited for use within the external facades of all types of buildings. The electrically actuated dampers provide controlled air intake, making them the perfect partner for natural and passive ventilation strategies. The Aircool range of ventilators is also suitable for night-time cooling strategies where daytime heat buildup is purged from the structure during the night. They also have excellent weatherability which allows the units to remain open even in inclement weather conditions. Passivent offers a number of options for its Aircool system including standard, thermal, acoustic and hybrid versions.

01732 850 770 www.passivent.com



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Healthy energy efficiency

In order to reach the 2050 net zero targets, building designers are faced with some tough choices. Louise McHugh of Vent-Axia explains how heat recovery ventilation can provide the efficiencies plus the right air quality, while avoiding overengineering

espite the Government slowing down on its route to net zero, the UK still has the legal target to meet net zero by 2050. Rather than putting sustainability on the back burner to meet these targets it is important to make changes now to ensure we meet this goal. Buildings account for 40% of energy use in Europe, and approximately 35% of emissions. To meet the Government's 2050 net zero target, buildings need to decarbonise, which will involve the wide-scale electrification of heating, a move away from fossil fuels, as well as significant improvements to air tightness and building insulation. Heat recovery ventilation is set for significant growth, as it plays its part in helping to deliver the final piece of carbon emissions reduction in buildings.

To meet the necessary carbon reductions, buildings are becoming more thermally efficient with greater insulation, and their air tightness is increased to avoid heat loss. However, without considering ventilation alongside these measures a building can end up with condensation, mould and poor indoor air quality (IAQ). Energy efficient heat recovery ventilation therefore supplies a solution that provides healthy filtered air while recovering heat that would be otherwise lost.

Energy efficiency

Designers of low carbon and carbon neutral buildings will therefore be pleased to know that the latest commercial heat recovery units, such as Vent-Axia's Sentinel Apex, have been designed to be highly energy efficient with industry-leading low specific fan powers (SFP) and low embodied carbon; they also ensure occupant comfort is a priority by operating quietly and effectively improving IAQ. Recovering as much as 93% heat recovery efficiency, this type of unit saves huge amounts of energy that would be otherwise wasted; good news for carbon reductions. To ensure a building operates as designed, it is also vital to ensure it is commissioned correctly. To make commissioning simple, the latest heat recovery units therefore feature advanced control systems that provide on-board, in-room and app-based control, where full functionality commissioning and monitoring is provided as standard, ensuring a unit meets its energy efficiency targets as designed.

Energy wastage

When selecting commercial heat recovery, it is vital to choose a unit where every element has been considered to avoid energy wastage. Heat recovery featuring demand control optimises IAQ while minimising ventilation energy consumption, only ventilating when required. Demand ventilation also helps with compliance with Approved Document F which states occupied rooms in commercial buildings must have means of monitoring IAQ. CO₂ demand-controlled ventilation can ensure good IAQ, as per Part F.

However, specifiers should be aware when selecting a heat recovery unit that there are some elements that can hamper efficiency. Filters are an important element of a unit – to maximise good IAQ, high level filtration is vital. But filters need to be chosen wisely, since a poor choice might affect the heat recovery unit's efficiency resulting in a higher SFP.

Another feature to consider when specifying commercial heat recovery is summer bypass. As buildings become increasingly airtight the threat of buildings overheating is growing. As well as IAQ and energy efficiency, thermal comfort is vital for building users. However, a summer bypass is another element that can negatively affect performance. Specifiers should consider an integral automatic summer bypass designed to provide free cooling when available, but ensure that it is sized to eliminate performance loss. Sizing in general is an important factor when it comes to heat recovery – overspecification of a unit wastes energy...but there are free cloud-based tools available for specifiers





By focusing on energy efficiency, avoiding energy wastage and considering and measuring embodied energy, designers can successfully reduce carbon in buildings Sizing in general is an important factor when it comes to heat recovery – over specification of a unit wastes energy. Specifiers should choose a heat recovery unit which meets the necessary airflow requirements. There are free cloud-based tools available that allow specifiers to select fans to exact duty points so the fan will operate in a building as designed.

Embodied energy

As energy efficiency reaches greater heights, there is greater focus on the embodied energy of products in our buildings. To reduce embodied, energy specifiers should look for products that are UKmanufactured, with the supply chain involved as short as possible. Also opting for a product that is completely serviceable and maintainable so each component can be removed and replaced if necessary, is very helpful in extending the life of a heat recovery unit. It is also important to consider the end of life of a product ensuring it can be easily re-purposed or recycled.

When designing a building to be low carbon or carbon neutral, there are many challenges to consider, from selecting materials to co-ordinating multiple layers of supply chain management. Obtaining accurate and up-to-date embodied carbon information is crucial for ensuring that the building meets its carbon reduction targets. However, this can be a time-consuming and complex process, as it requires data to be collected from multiple sources, including suppliers, manufacturers and contractors.

Manufacturers are therefore now taking additional steps to provide the embodied carbon information that designers need such as by using CIBSE TM65 data collection methodology to collect accurate and detailed embodied carbon information. Working from a component level, this methodology ensures that data are comprehensive, and up-to-date.

So, when building designers are considering how to ventilate a low carbon or carbon neutral building, heat recovery ventilation is a good solution. By focusing on energy efficiency, avoiding energy wastage and considering and measuring embodied energy, designers can successfully reduce carbon in buildings as we head towards net zero 2050.

Louise McHugh is product manager at Vent-Axia

UltraCare products join Mapei Zero Line



Seven treatments from the UltraCare range have joined Mapei UK's Zero Line – a range of low environmental impact products. They include six UltraCare surface maintenance products and UltraCare Smooth Silicone. The extended portfolio, which also includes installation and building products, provides safe and sustainable high-performance solutions with CO₂ fully offset in the entire life cycle. CO₂ emissions – measured throughout the life cycle of products from the Zero line in 2023 using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs – have been offset through the acquisition of certified carbon credits in support of renewable energy and forestry protection projects. The portfolio demonstrates Mapei's commitment to the planet, to people and to biodiversity. Mapei's UltraCare series provides a solution from installation, to the protection and maintenance of surfaces in private and commercial settings. Treatments are formulated for all types of natural and engineered stone and tile finishes and are tailored to a tile's finish and individual characteristics.

info@mapei.co.uk www.mapei.co.uk

Parkside goes on protecting with 40 for 40



To date, 40 for 40, a partnership between **Parkside Architectural Tiles** and World Land Trust has protected over 156 acres of biodiverse habitat. 40 for 40 is a partnership between specifiers, Parkside Architectural Tiles and the World Land Trust, www.worldlandtrust.org, to protect the world's precious natural habitats. By specifying tiles from Parkside that have 40% recycled content or above, specifiers can play an active role in saving land and species. In its most successful quarterly period to date and since June alone, 40 for 40 has stepped up for 36 acres of permanently protected nature reserves in Argentina, Brazil, Kenya and South Africa. Jonathan Wiles, director of commercial sales, Parkside Architectural Tiles, says: "40 for 40 is part of a measured approach to reducing our impact on the planet. The scheme commits to land purchase on every square metre of tiles from Parkside that are specified with 40% or more recycled content. We're delighted to be contributing to the work of the World Land Trust in 40 for 40 which we see as a balanced approach that not only considers resources, but also goes someway to give back to nature."

0116 276 2532 www.parkside.co.uk/sustainability

Zentia gives Ultima+ the ultimate upgrade with new names and new products, meet Prestige



entia, a UK leader in complete ceiling solutions, is pleased to announce the renaming of its brightest and whitest tile, Ultima+. The new family, titled Prestige, will continue to represent the pinnacle of innovation and excellence in the industry and set new standards for performance, reliability and versability.

Prestige, which was successfully launched on 25 October, offers three reliable, bespoke solutions depending on different client needs. The flagship product, Prestige, offers smooth, finely textured laminated tiles that provide good sound absorption and attenuation, offering perfectly balanced acoustical performance. The tiles are made in the UK*, contain up to 37% recycled content and are available in 35 colours, offering practical and creative solutions for a range of environments including meeting rooms, waiting areas and data centres.

Prestige hA+ offers the same sleek, smooth aesthetics but also forms one of Zentia's most sound absorbent suspending ceiling tile to date, making it ideal for open plan areas that require a dose of calm and quiet such as libraries and healthcare settings. As well as an outstanding acoustic performance, the ceiling systems offer a reinforced scratch resistant face and impressive environmental credentials, being 100% recyclable.

Zentia is committed to reducing the environmental impact of its products. As such we are excited to announce the Prestige family will be the first laminated product to be added to our Pinnacle Partner offcut recycling scheme. The scheme is a promise from us, as a manufacturer, to take back and recycle all offcuts of Prestige tiles from our approved Pinnacle Partners on future projects. This will result in the reduction of the amount of waste going to landfill sites.

The final product within the range, Prestige dB, offers sound attenuation properties that is most effective for when privacy is your main concern by limiting noise being transmitted through ceiling voids. This makes it ideal for individual offices and boardrooms. The tiles offer the same aesthetic finish that Zentia has become known for, and can be specified, as with the rest of the range, in a range of different shapes, sizes and colours* to allow enhanced creative freedom.

Graham Taylor, director, sales and marketing at Zentia said: "We are thrilled to have successfully launched our new product range, Prestige, previously known and adored as Ultima+. Whilst the name may have changed, the brand and range's reputation for reliability, quality and innovation has not, and Prestige is only another great example of our dedication to making cutting-edge ceiling tile solutions that are made in the UK and of the highest-quality, offering the best solutions for our clients."

info@zentia.com www.zentia.com/en-gb

*Excluding dB range and SL2 Planks

Gradus takes XT stair edgings to the next level

Gradus is proud to announce the launch of several new additions to our XT stair edgings range, the market-leading solution for reducing the risk of slips, trips and falls on stairs. Whether you are looking for a traditional, elegant look or a contemporary, modern effect, we have the perfect option to suit your project; particularly schemes within hospitality & leisure, residential developments or commercial office. The recent updates our XT range include:

New XT Bronze range: A stunning collection of 14 stair edging profiles offered in Polished Bronze or Satin Bronze finishes, with configurations available to suit various floorcoverings and step shapes. Choose from Interior, Xtra-grip or our new metal castellated inserts and complete the look with our new welded corners and nap trim, also available in matching finishes.

New XT Aluminium finishes: The range has been further strengthened with the

introduction of six new attractive finishes; Antique Brass, Antique Bronze, Black Anodised, Polished Chrome, Satin Chrome and Brushed Stainless Steel, in addition to the standard Aluminium finish. These finishes are available across all XT Aluminium profiles and perfect for schemes looking to create a more modern and minimalist aesthetic. Compatible welded corners and nap trims are also available in matching finishes.

New metal castellated insert: A durable and slip-resistant metal insert that can be combined with any profile from our XT Bronze or XT Aluminium ranges to provide an all-metal solution. The metal castellated insert features the unique insert design synonymous with XT stair edgings, which extends around the entire leading edge of the step to ensure that foot contact is always made with the slip-resistant element. Available in nine finishes that correspond with the aforementioned profiles, they enable the design freedom to either select a matching



profile and insert finish or choose contrasting finishes to create your own unique effect.

New insert colours: An additional six Interior & Xtra-grip insert colours are offered across XT Bronze & XT Aluminium. The six new colours mean that there is now a choice of 20 Interior Standard Finish and 18 Xtra-grip insert colour options available in total, meaning there is an insert colour and style for every environment. These new colour options can be specified now, with stock available from January 2024.

01625 428922 gradus.com/download/brochure-xt-stairedgings-november-2023

Viva Torquay makes more of its floor with IVC Commercial



Luxury Vinyl Tiles and Heterogeneous Vinyl from IVC Commercial have given entertainment venue, Viva Torquay, an interior that's ready for creating a vibrant and welcoming experience. With a vision for a modern street food restaurant on the ground floor with a games zone on upper floors, the owners of Viva Torquay have turned an old and weathered fish and chip shop into one of the town's best entertainment venues. As part of the refurbishment of the building, a range of floors from IVC Commercial have been chosen, turning the 500 m² games zone into a compelling and mesmerizing play of pattern and texture. Moduleo Roots Luxury Vinyl Tiles in Country Oak and Glade Oak create a striped design across the space, adding a welcoming ambience thanks to their natural wood aesthetic with the monochromatic look matching the black ceilings and white painted architectural details of the historic building. Teamed with floor-level LED lighting, it's a striking effect that also helps to zone activity areas. With the durability and practicality of Moduleo's high-performance LVT construction, the floor is ideal for the daily demands of the busy venue.

01332 851 500 www.ivc-commercial.com

Beauflor builds awareness at London Build Expo



Beauflor[®] exhibited at London Build Expo, presenting its high-quality cushion vinyl floors to the UK's construction industry. London Build Expo attracts over 35,000 attendees from across the construction industry looking for the latest in building technologies and products. For the first time, Beauflor presented its Beauflor Pro cushion vinyl collections that allow homes, schools, aged care and other buildings to benefit from cost-effective, easy to install, durable and simple to maintain floors. The brand also highlighted its Beauflor Create fast-track custom design service with visitors discovering how it could add value to their construction projects. Using high-definition digital printing to allow any design to be printed and with a minimum order of just one roll on all Beauflor Pro ranges that provide natural design at an affordable price and with specifications developed specifically for commercial or residential use. Beauflor has specialist solutions to improve noise absorption, slip-resistance and durability in high-traffic commercial locations.

info@beauflor.com www.beauflor.com

Step by step collaboration

Ed Rhys-Hurn from Zakuna explains the benefits of collaboration with interior designers, architects and contractors early on in the stair design process to avoid challenges presented by design, regulations and installation issues



Regardless of the chosen method of construction for the property, when planning a staircase, choosing a manufacturer and specifying the stair design must be undertaken at an early stage. In addition to complying with building regulations, layout, function, practicality, safety, budget and materials palette are all principal factors to be considered, whether it's for a new build property or a renovation project.

Considerations need to be made to ensure the weight of the flight is supported within the house. Wall typology, structural integrity and an engineering perspective are critical issues. Floor design and construction will need to accommodate the significant load bearing weights and its compression strength may need to be confirmed. In addition, the structural integrity of the stair design itself, the structural opening, size available and squareness of the walls are key factors that need to be clarified.

The choice of stair style can also affect certain requirements. For example, a cantilevered staircase will need considerations for the wall structure, a two-stage installation process and finishing. For a hung staircase or a self-supporting stair design, calculations to the fixing points and how the staircase will fit within the opening need to be considered. The structural integrity of the stair design itself, the structural opening, size available and squareness of the walls are all key factors that need clarifying







A free standing, central spine staircase can be a good solution for a renovation project, if the walls are not completely plumb.

For renovation projects, removing existing stairs and replacing them with new stairs to the same configuration is a fairly simple process in terms of specification, as the run, rise, and pitch can be replicated, knowing that the structural integrity and layout of the house remains unchanged. Any new stairway that involves changing the structural integrity of the home must comply with building regulations and will need a structural engineer to provide calculations.

Staircase design

The design of the stairs will affect the overall floor plan, flow of traffic and use of the interior space. Understanding who will be using the staircase heavily influences the design, for instance, closed steps are more advisable than open risers if a user suffers from acrophobia (fear of falling), especially if two flights are required.

The staircase can be a major element of the internal scheme, creating a beautiful focal point or simply making the best use of space. This can impact windows, doors, upper rooms and surrounding areas. Modern self-supporting staircases can include the possibility for configurations that may not have been previously possible with traditional stair designs. The design of a staircase can also influence other factors within the property. For example, open risers, central string spines and glass balustrades will open up the stairway, introducing maximum levels of light into the interior. Choosing certain tread thicknesses and tread styles can help meet Building Regulation requirements.

With an extensive choice of modern designs, precision engineered and flawless in fabrication, there are many styles that will create a dramatic and stylish effect. The configuration can have a surprising influence on the overall aesthetics. Spiral, helical, floating, cantilevered, freestanding, winders, half or quarter landings – there are many design options to consider.

Central spine stairs are self-supporting, have no visible fixing element and are versatile in configuration; straight flights with landings, to helical stairs with winders. With the treads fixed on top of the central string, this will give the look of a seamless 'floating staircase' for a contemporary feel. The cantilever is a true floating staircase, designs are generally complemented by frameless glass, glass with handrails, spindles or railings. The simplistic design of overhanging treads can give the illusion of more space within a room, allowing the designer or architect to create some very striking design concepts.

In some situations, it is possible to combine two styles of stair into one staircase design. For example, one client wanted a floating effect staircase, with a configuration that could not be accommodated due to the structural requirements. The solution was to design a cantilevered staircase ascending from the ground floor. Combining this with the open rise style of the Challenger staircase continued the floating effect, while the design of the steel strings connected to the sides creates a seamless transition. Two quarter landings were incorporated, one suspended from the first floor and the other fixed to the wall, suspended above the floating stairs.

Stairs with strings fixed from the sides can both be classic and contemporary in style and consist of laser cut steel strings which can be straight for a modern, angular feel or twisted to create a double turn S shape staircase or a helical staircase. The popular Zig Zag style stair can be an architectural centrepiece in any home or commercial property.

Stairs with supporting strings under treads are also extremely versatile, they can be traditional or contemporary by just using small specification changes.

Curved staircases incorporate curved strings, with curved glass balustrades, or railings for a sweeping stylish effect. These true classic designs can create a modern centrepiece.

Spiral stairs are not just space efficient, they can also be a focal point to any architecture. They are similar in nature to a helical stair configuration, except the treads wind around a centre post.

In addition to the stair style, the choice of steel railings, glass balustrades, or colour matching the spine and hardwood treads to interior doors and flooring, will complement the interior design scheme. LED lighting can be neatly concealed under each tread which creates dramatic lines and opens up the architecture of the stairs.

Ed Rhys-Hurn is managing director at Zakuna



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www.decorativepanels.co.uk

Gerflor launches revolutionary new Taralay Impression Collection



The Taralay Impression Collection, from international flooring and interiors specialist Gerflor, has been completely reinvented. There is now a wide range of new eye-catching designs, and a brand new loose-lay product. With MyTaralay Digital printing, the service offers forward thinking customers, access to some new dynamic finishes and also a customisation offer for any bespoke requirements. The new Taralay Impression range from Gerflor delivers four superb solutions for a host of contract applications and is also the perfect choice for high traffic environments. The Glue down installation, Compact, Looselay and the all-new Taralay Hop Compact ranges are all ideally suited for Healthcare, Hotels and other Hospitality spaces, Retirement Homes, Education, together with Offices and Government Buildings, and Retail locations. Nav Dhillon, marketing manager, Gerflor UK commented: "The new Taralay Impression Collection is aimed at delivering both beauty and practicality for our clients and users." Over twenty million square metres of Gerflor flooring has been installed since the first generation of Taralay Impression.

01625 428922 www.gerflor.co.uk

Customisable washbasin/vanity unit



Building on the success of its acclaimed KERDI-BOARD, Schlüter-Systems has launched the customisable, prefabricated KERDI-BOARD-W, enabling homeowners as well as architects and contractors to create a vanity unit quickly and

cost-effectively. KERDI-BOARD-W, like the company's durable and waterproof, extruded rigid-foam KERDI-BOARD, is immediately ready for tiling, while it is light weight and easy to handle; and can be combined with the KERDI-LINE-VARIO drainage profiles.

www.schluter.co.uk





No ordinary panel, Kinewall by Kinedo, is a fantastic new range of decorative bathroom wall panels that can transform not just a shower space, but a whole bathroom, cloakroom or utility room. Offering a revolution in materials, a revelation in designs and a remarkably

simple installation process, Kinewall offers an abundance of choice to create the perfect bathroom. There are 70 unique patterns, styles and colours in the range broken down into categories including minerals and metals; nature; patterns and geometric; wood.

020 8842 0033 www.kinedo.co.uk



F. Ball makes for top story at Channel 4 News



F. Ball and Co. Ltd.'s Stopgap 300 smoothing compound has been used to create a hard-wearing base for a flooring installation at Channel 4 News' main broadcast studios in Leeds. The refurbishment involved installing luxury vinyl tiles (LVTs) over 120 m² at the

television broadcaster's national headquarters. As well as delivering perfect aesthetics to pass the scrutiny of roaming HD cameras, the flooring had to be super smooth and durable to accommodate the repeated movement of the cameras and other heavy equipment.

01538 361 633 www.f-ball.co.uk

Non-corrosive batten passes the acid test



Robust and easy to install, the TorlanComm LED battens from Knightsbridge – one of the UK's leading manufacturers of wiring accessories and lighting – answers the need for a non-corrosive, energy efficient and high performance lighting in variety of applications from residential to industrial or agricultural. Ideal for commercial

applications – both inside and out – the TorlanComm comes in two versions: CCT adjustable and Digital Addressable Lightning Interface (DALI) CCT. The options available include self-test emergency, microwave and microwave self-test emergency.

01582 887760 www.mlaccessories.co.uk



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Bare beauty with the new Urban Nude



Industrial kitchens are often designed in dark tones; yet the new Urban Nude kitchen from Keller introduces light shades such as sea salt, pictured here, from the trendy greige palette. It also highlights the beauty and versatility of glass units. Various new wood decors in ash tones have been introduced and designers can select

from unicolour or wood decor melamine; for a more luxurious look, a lacquer colour and/or a stained veneer can be specified. www.kellerkitchens.com

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Space saving insulation for 1970s building



Spacetherm[®] WL (Wall Liner) insulation from the **A. Proctor Group** is addressing the need for improving the thermal performance, and helping to reduce heating costs of a 1970s building with limited internal space. To make the space feel bigger, the architects created a split level, giving the majority of the space to the living areas and compromising on the size of the bedroom. The bedroom, essentially a little cube, juts out from the rest of the flat, meaning there are three external walls; it's also partially sunk into the ground. Additionally, above the ceiling is the pedestrian deck, so again, no insulation. All this amounts to a very cold room. Designer Stefi Orazi from Modernist Estates who lives in the flat explains: "I started researching different insulating materials, but because of the size of the room (it's about 2.5 x 2.5 m), I really couldn't afford to lose any wall space with regular insulation. I then came across Spacetherm WL made by the A. Proctor Group. This seemed ideal as it's only 13 mm thick, and you can glue it directly onto the wall, plus you can do it yourself and can download the installation guide direct from their website."

01250 872261 www.proctorgroup.com

New Knauf Insulation solution debuts on UK's largest live entertainment arena



Knauf Insulation has launched FactoryClad Roll 35, a non-combustible glass mineral wool solution for built-up metal walls and roofs with the lowest embodied carbon of any equivalent 35 lambda mineral wool product on the UK market. FactoryClad Roll 35 was specifically developed to insulate the 12,000 m² roof of the new Co-op Live arena in Manchester, one of Europe's largest and most sustainable live entertainment arenas. "Co-op Live is a project that places sustainability at its heart," explained Liliya Luke, glass mineral wool product manager at Knauf Insulation. "So it was essential our new FactoryClad Roll 35 not only delivered the required thermal efficiency but met the project's sustainability requirements." FactoryClad Roll 35 is non-combustible with the best Euroclass A1 reaction to fire classification. Because it is made of mineral wool, it also acts as a sound absorbent lining within built-up metal roofs, so will help control the reverberation of internal sound. It comes in five thicknesses between 60 and 220 mm and is manufactured at a width of 1,200 mm for speed of fitting. It also has a high tear strength which ensures its durability.

01744 766766 www.knaufinsulation.co.uk/products/factoryclad-roll-35

Sto helps to maximise fire safety across two residential towers



An external wall insulation (EWI) system designed by **Sto** has ensured two residential tower blocks meet stringent fire safety requirements. Located in Tower Hamlets, Gayton House and Sleaford House are managed by housing association Poplar HARCA. Following amendments to Building Regulations, which banned the use of combustible materials in external walls of high-rise buildings above 18 metres, StoTherm Mineral K was specified to replace the existing EWI system. BBA-certified, StoTherm Mineral K comprises mineral fibre insulation boards and the system is classified with an A2-s1, d0 reaction to fire in accordance with BS EN 13501-1. Working on behalf of Westminster Building Company, Square 1 Architectural Solutions was responsible for removing the existing EWI and installing the StoTherm Mineral K system onto four elevations on each 23-storey block. The non-combustible mineral fibre insulation boards were secured to the existing concrete substrate using adhesive and mechanical fixings, and without the need for additional expansion joints.

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Mapei systems safeguard future at Northcroft Lido



A comprehensive Mapei system – including structural repair and waterproofing products – has been used to renovate the historic Lido at Northcroft Leisure Centre in Newbury. The new facility features a 50 metre Olympic heated pool, interactive splash pool and additional changing cubicles with accessible features. The high performance Mapei specification included products to repair and stabilise the concrete foundation of the lido and to create a new waterproof and watertight surface. The specification comprised: Lamposilex fast set pre-blended mortar, Mapeproof Swell moisture expanding rubber-based hydrophilic sealant, Mapemortar HB R3 repair mortar and Mapeband TPE flexible sealing and waterproofing tape. During the second stage of works, Mapefix VE SF ultra-rapid hardening structural anchor was applied, along with Adesilex PG1 & Adesilex PG4 thixotropic epoxy adhesives and Epojet LV epoxy resin. The surface build-up was then completed with Topcem fast drying hydraulic binder for screed and Mapelastic Foundation flexible cementitious waterproofing mortar, and Mapeflex PU 45 FT – a rapid-hardening paintable polyurethane sealant.

info@mapei.co.uk www.mapei.co.uk

Mapei system repairs and transforms outdoor pool, from the ground up



Mapei has provided a repair and installation solution for a swimming pool in the heart of Norfolk. The Mapei system was used to completely renovate the 15 m outdoor swimming pool from the base up, and install Cupira Marengo porcelain tiles from Ceramica Mayor. In the first phase of works, the pool base was repaired with Mapei Planitop Fast 330 quick-setting, fibre-reinforced cementitious levelling mortar and then waterproofed with Mapelastic Foundation flexible cementitious mortar, incorporating Mapenet 150 alkali-resistant glass fibre mesh and Mapeband 120 mm alkali-resistant rubber and felt tape for dealing with movement. D C Building Services then repaired the concrete around the inlet/outlet pipes with a single layer of rapid-set Mapei Planitop Smooth and Repair R4. The whole of the drainage channel was then waterproofed using Mapei Planiseal 88 osmotic cementitious mortar and Mapepoof Swell applied. During the final phase of works, tiles were installed with Keraquick S1 – a very low VOC quick-setting, deformable cementitious adhesive, mixed with elasticising latex, Mapei Latex Plus.

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Mapei makes a grand entrance at Hotel

Mapei has provided a fast-track repair and resurface solution for the main entrance steps at the Village Hotel, Warrington. The renovation project - completed by SCFR Ltd for main contractor, Derek De'Ath Ltd - included a complete renovation of the concrete steps and application of a UV-resistant and slip-resistant Mapei coating system, designed for heavy pedestrian traffic. Located close to Warrington town centre in Cheshire, the Village Hotel is approach via a wide concrete stepped entrance. Localised repairs had been carried out historically to the concrete steps and the surface required complete renovation. Mapei attended the site throughout the project, to provide support on each phase of works, including substrate preparation, repair and resurfacing, over four days, and installation of the primer and protective coating, completed in a single day. Using Mapei's Colormatch swatch, a buff-coloured shade was specified for the Village Hotel, to complement the original stone pillars and exposed brickwork.

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