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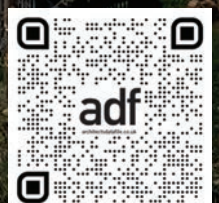
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## SUNDAY MILLS, WANDSWORTH, SOUTH LONDON

Assael Architecture's co-living scheme gives keyworkers a foothold in the capital plus high-quality shared amenities, echoing the area's industrial past

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**Managing Editor**  
James Parker  
jparker@netmagmedia.co.uk

**Publisher**  
Anthony Parker  
aparker@netmagmedia.co.uk

**Content & Research  
Coordinator**  
Shelley Collyer

**Editorial Contributor**  
Laura Shadwell

**Events Coordinator &  
Data Analysis**  
Amy Madigan

**Studio Manager**  
Mikey Pooley

**Production Assistants**  
Georgia Musson  
Kim Musson

**Account Manager**  
Steve Smith

**Digital Marketing & PR  
Account Manager**  
Suzanne Easter

**Publishing Assistant**  
Kim Neville

**Managing Director**  
Simon Reed

**Advertising &  
Administration**  
t 01435 863500  
info@netmagmedia.co.uk  
www.architectsdatafile.co.uk

**Press Releases**  
editorial@netmagmedia.co.uk

**Registration &  
Circulation Enquiries**  
info@netmagmedia.co.uk

netMAGmedia Ltd  
Cointronic House  
Station Road, Heathfield  
East Sussex, TN21 8DF



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# FROM THE EDITOR



As shown recently at Futurebuild 2024 held at London's ExCeL, where an entire conference stream (in partnership with the Retrofit Academy) was given over to retrofit, it's now the flavour of the month, to say the least. As ever, trends normally end up being driven by pragmatism, and along with enlightened clients and architects, housebuilders are increasingly now looking to RMI to provide their bread-and-butter work, as the new build market continues to stagnate.

This is excellent news for our climate-addressing ambitions, as in the UK there are 28 million homes that need addressing to improve their performance for net zero – this eye-watering figure was bandied about by many commentators at Futurebuild. We simply can't train enough retrofit specialists to service all of this demand, whatever the Academy's bold ambitions to create a new industry devoted to refurbishing our existing buildings. All housebuilders large and small will need to be retrofitting our homes with insulation, whether outside or inside, making other fabric improvements and introducing non-fossil fuel energy.

It's a colossal undertaking which might mean going onto something like a 'war-footing' level of co-operation such as the construction industry has never witnessed, and is in fact instinctively opposed to. If the Government wants it to happen on such a scale, they will need to embrace top-down planning which has also been largely absent since post-war building programmes.

Local authorities will be the other main arm of leverage, and Westminster has already taken up the cause, instigating a new 'presumption' in favour of retrofit for all housing projects it considers. Its new policies mean developers "must explore the option to retrofit before demolishing buildings." The long-running saga of whether Marks & Spencer's historic Oxford Street store (which is under Westminster's aegis) will be demolished and rebuilt or refurbished (the former now seems likely), casts doubt over council's new pro-retrofit bullishness.

Secretary of State at DLUCH Michael Gove had refused M&S' plan to demolish and rebuild to a design by Pilbrow & Partners, preferring a retrofit of the 1929 Art Deco building which may have proved more eco-friendly exactly for that reason, and due to a perceived impact on nearby heritage. However a recent twist has once more seen The High Court defying the Government, ruling that Gove was 'rewriting national policy,' and administering a major dent in the Department's ego.

The problem is, we need to try and engineer the case for the first development option not being a new building, but for redevelopment, as this works against many of the industry's motivating forces.

**James Parker, Editor**

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## ON THE COVER...

Sunday Mills is the first large-scale co-living project targeted at keyworkers and young people leaving foster care, giving them an opportunity to live closer to the centre of the capital. Cover image © McAleer & Rushe. For the full report on this project, go to page 41



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## INTERNATIONAL

# Pro bono architect team designs off-grid children's village in Tanzania



Working with London-based charity Article 25, a team of architects working pro bono have designed an “ultra-sustainable” off-grid children’s village to replace the derelict orphanage that children were living in.

In Tanzania, roughly 8% of children under the age of 18 are orphaned, with an estimated 90,000 orphans in the northern region of Kilimanjaro alone. Ranked 154th out of 187 countries in the UN Human Development Index, Tanzania remains one of the poorest and least developed countries in the world.

The new Kao La Amani Children’s Village (meaning ‘peaceful settlement’ in Swahili) is in Boma Ng’ombe in the Kilimanjaro region of northern Tanzania and is home for 60 children with cottages each with its own live-in ‘Mama,’ along

with a large social block with a dining terrace, kitchen, games room, library, and laundry facilities.

The village is designed to be able to operate entirely ‘off-grid’. All power is generated using solar PV panels, and all water is provided by a borehole on site and then heated using solar hot water heaters. The waste from the site is filtered via septic tanks and a constructed wetland, meaning that it isn’t dependent on municipal sewage systems. Not only do these measures safeguard against Tanzania’s extreme weather conditions (where drought and flooding are both possible during the year), but they make the estate much cheaper to run: an essential in a country where 70% of the population live on less than \$2 a day. These sustainability features

allow the village to run at minimal costs while protecting its natural resources and ensuring the children’s village will continue to provide to children in this area for decades to come.

As a non-profit charity based in the UK, Article 25 provides low cost and ultra sustainable properties to NGOs by using pro-bono and ‘low-bono’ expertise, allowing them to keep design and management costs significantly lower than commercial rates so that NGOs can afford to build transformative hospitals and schools. They have completed over 100 building projects in 35 countries around the world, tackling challenges like earthquake risks, remote locations, extreme weather, and unreliable power supplies.

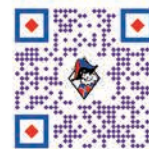


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## AWARDS

# Surface Design Awards 2024 winners



Woven House in Kent by Giles Miller Studio



Moshu Treehouse scheme by Hitzig Militello Arquitectos



The Nest by Studio Lotus

The winners of the much-anticipated Surface Design Awards were announced at this year's Surface Design Show, with The Tarang Pavilion in Gandhinagar, India by The Grid Architects taking the Supreme Winner prize.

An impressive number of projects, totalling over 160 entries across 20 countries, were entered into this year's awards, which are a celebration of innovation in material use in architectural design projects around the world.

The Surface Design Awards honour outstanding achievements in both interior and exterior design, recognising innovative and sustainable projects. The trophies themselves were made by solid surface specialists Hanex UK, crafted from reclaimed scrap material, which means that every award is unique and illustrates the beauty that can be created from something which was destined for landfill.

The judging panel, headed up by Nimi Attanayake, director and co-founder of NimTim Architects, and Charlotte McCarthy, head of interiors at Heatherwick Studio. In addition, the judging panel included Carly Sweeney, the director of Universal Design Studio, Chris Laing, an architectural designer, activist, consultant, founder of Signstrokes and Deaf Architecture Front and Gurmeet Sian, architect and founder of Office Sian, designer Kangan Arora, Sofia Steffenoni leader of Material Assemble, Lanre Gbolade architect and co-founder Gbolade Design Studio, Maria-Elena Patru director of Hill Patru and Gillian Lambert of AOC Architecture. The judging panel had the difficult job of selecting the category winners from 40 entries shortlisted across the 13 diverse categories.

The Exterior Surface of the Year award was won by Woven House in Kent by Giles Miller Studio. Judges praised its "clear craftsmanship with biophilia cleverly being used out of context." The winner in the Interior Surface of the Year category was Casta by Portugal's Matter which garnered praise for "creating circularity of waste, with the collaboration of local industries, both authentic and contextual."

The Rowe (Wells Clad Vitreous Enamel Cladding) by AJ Wells & Sons clinched the top spot in the Commercial Building Exterior category, described as 'an interesting way to use cladding and a good way of spreading joy to the public and making the building better.' The Commercial Building Interior award, meanwhile, was won by Argentina's Hitzig Militello Arquitectos for their Moshu Treehouse scheme, taking the prize in this category thanks to its playfulness, and its ability to "take a common material and make it look interesting by having a collaboration between this and other natural materials," said the judges.

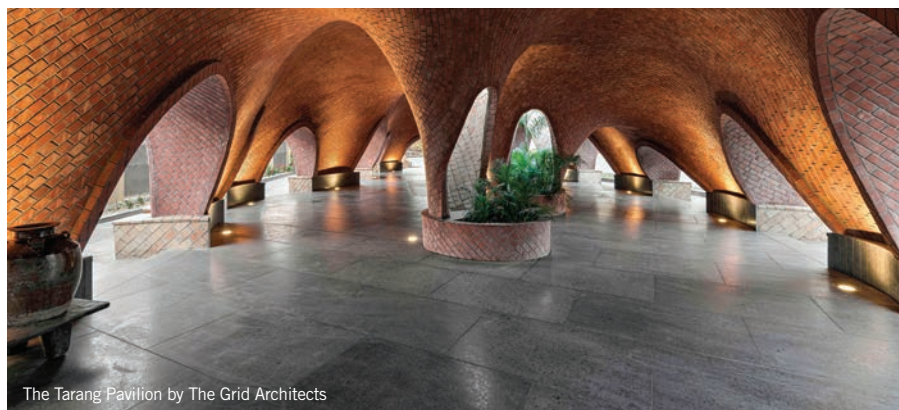
India's The Nest by Studio Lotus was triumphant among the Housing Exterior finalists with the judges praising its simplicity: 'an interesting form while thinking about the landscape as well,' they said. Closer to home, the Cork House in London by Polysmiths Ltd took the top spot in the Housing Interior category. As the name suggests, cork was a key component of this project with the judges impressed by how a confident use of this material "contributes to the overall environment of the house, acoustically using a material known for its inherent quality as well as how it looks."

Among the Light and Surface Exterior finalists, Tonkin Liu won the award for their Sunderdea Sunderland scheme with the judges commenting "there is so much to like about this strong submission, even more so that it enhances at night." This year's Supreme Winners were also successful in the Light and Surface Interior category with the Tarang Pavilion by The Grid Architects impressing with the way the lighting accentuated the three-dimensional form, and the combination of the structure with natural materials proving transformative, "bringing the colour and the texture of the terracotta brick tiles to life," according to the judges.

The winner among the Public Buildings shortlisted was the Macam – the Armando Martins Museum of Contemporary Art. Hitzig and Militello Arquitectos gained



Sunderland Sunderland by Tonkin Liu



The Tarang Pavilion by The Grid Architects

a hat-trick in this year's Surface Design Awards, with wins in both the Landscape and Public Realm category and for Manduca market and the Cien project in the Temporary Structure category.

The Architectural Photography award was this year won by Jeevan Jyot with an image entitled Red From Past to Present, which was praised for the way "it really stands out against the background, the foreground building and the biophilic element."

Also announced at the Surface Design Awards ceremony, which was held at London's Business Design Centre, this year's New Talent award was won by Studio Mafa.

The Supreme Winner, Tarang Pavilion which takes its name from the word for 'wave' in the Hindi language, is a dynamic gallery space designed to adapt and evolve to serve as an immersive exhibition platform. It was praised by the judges as 'a true beauty of interior

spaces; the interiors connect to the whole construction.' On receiving the award The Grid Architects said they were "overwhelmed, shocked and ultimately thrilled." The Grid Architects co-founder Snehal Suthar said, "The client wanted something which was different, sustainable and local." Co-founder Bhadri Suthar added, "It was important to us to use local artisans, local artists and local materials and the structure is the largest of its kind in India."

## EDUCATION

# 79% of universities don't offer architecture degree apprenticeships

The barriers to unlocking highly skilled workforces and economic growth in the building sector have been uncovered by new research by University Vocational Awards Council (UVAC), which reveals 79% of the UK's top 100 universities still don't deliver building and architecture-based degree apprenticeships.

Analysis across the 100 universities found that more work is needed if the UK's Higher Education (HE) system is going to be in a position to offer every available degree apprenticeship to "ensure architect employers and student ambition is met."

Of those universities reviewed, the greatest provision of degree apprenticeships is in business and administration subject areas, with 48% of universities offering a programme for those progressing their career in HR, as a business analyst or even as a senior leader.

Business and administration courses, such as the CMI Chartered Manager Degree Apprenticeship, make up 18% of the degree apprenticeships offered by the top 100 universities.

It was closely followed by health and science (45%) which provides a pathway into roles such as a pharmacist or registered nurse. The third biggest subject area is digital and IT (36%) which offers a work-based route into roles such as software developer or data scientist.

Further positive news for the economy found within the research, was that 46% of degree apprenticeships are provided within recognised STEM (Science, Technology, Engineering and Maths) subjects, such as engineering and manufacturing and finance and accounting.

The lowest provision of degree apprenticeships is within law and legal

studies with only 1% providing them in that area. Dr. Mandy Crawford-Lee, chief executive for UVAC commented: "The UK's world class universities have a fundamental role to play in ensuring architect employers, including SMEs, have the right employees with the right skills to raise business performance and productivity. Too often universities are only seen as focused on academic programmes for young people, when in reality those delivering apprenticeships play a key role in supporting those new to the workforce, or currently employed, to develop the knowledge and skills needed to excel in any sector.

"Moving forwards, we view the provision of higher and degree apprenticeships delivered by higher education as essential to levelling up regions and reducing the skills gap. Our research shows that there is still capacity within our UK institutions to both deliver more degree apprenticeships and diversify into new industries and occupations. Universities continually helping raise the status of all types of apprenticeship across the UK."





# Grand designs need the best windows.

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Tucked away on the outskirts of Brigg, Lincolnshire is Scawby Brook, a carbon-neutral, sustainable house created to blend into the surrounding woodland setting.

The house which recently featured on an episode of Grand Designs was designed by local architect Kate Kelly. The connection of the dwelling with nature was a key focus of the client's brief with the house featuring an abundance of glazing to reflect the natural environment and provide the best possible views of the rural landscape.

Kestrel Aluminium window and door systems were specified to provide a complete glazing solution for the project.

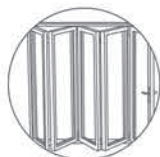
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## SOFTWARE

# Hope Architects launches ‘step-change’ home design system

Residential specialist Hope Architects, have launched an innovative system for designing homes that “encourages customisable layout creation, maximises land value and offers complete flexibility of appearance.”

Effective for small and volume schemes alike, ‘Skeleton House’ has been created by practice founder, Phil Cooper, who used his 20 years’ of experience working with residential developers and national house builders to design the system.

Comprising a “suite of room components all compliant with regulations and standards out of the box,” designs can be created around a service and stair core. By focussing from the beginning on efficiency and commonality, Skeleton House offers the benefits of standardisation but without its constraints.

When used on any site, developers can optimise designs by using consistent



elements to control costs and maximise land value alongside retaining a compliant product.

Phil Cooper, RIBA chartered architect and founder of Hope Architects, said: “Skeleton House has been created to overcome the need for developers to maintain a standard house type range, which is costly and can be a problematic approach with Local Planning Authorities. By using a system like Skeleton House, developers will have all the benefits of

commonality and standardisation, but with the complete flexibility of a bespoke approach.”

“Having designed schemes small and large throughout the country, totalling tens of thousands of houses, I’ve identified ways in which the process can be rationalised, making optimum use of space and materials.”

“Put simply, if we as an industry are ever going to hit our national housebuilding targets, we need to start thinking differently, and we need to make it easier for SME builders to begin developing again.” He added: “We’re pleased to have created a system that will deliver efficiencies and help reduce project budgets, so that we can enable many exciting new developments throughout the UK.”

More information on Skeleton House is available at [skeletonhouse.co.uk](http://skeletonhouse.co.uk)

## RESIDENTIAL

## FCBStudios’ masterplan for ‘birthplace of Concorde’

South Gloucestershire Council has passed a resolution to grant planning approval for the revised masterplan for Brabazon, the new neighbourhood for the historic former Filton Airfield, designed by Feilden Clegg Bradley Studios (FCBStudios) alongside JRDV, SWA and Grant Associates for YTL Developments.

As the birthplace of Concorde and supersonic travel, home to over 100 years of aviation history, the former Filton Airfield is known worldwide for a community that changed the world. Under the plans, Brabazon will become a new urban destination that lives up to that legacy.

This pioneering new place aims to provide every generation with the space, connectivity and opportunity to continue to shape the future. The development will also provide new

homes, new jobs and renew the fabric of the community, driving local prosperity for the next century.

The approved plans “should see Brabazon grow to over 6,000 new homes of every type and tenure and for every generation,” said the practice, “from rental apartments to flats for first-time-buyers, open-market houses and properties for retirement living.” There will be up to 2,000 beds for student accommodation, while high-quality affordable homes will make up 26.5% of properties, equating to over 1,700 architect-designed houses and apartments.

The practice added: “crucially, the plans are based on a flexible framework so that development is phased alongside improved transport links.” Three review stages are built into the approval to ensure that the number of homes built at

Brabazon “can only increase in line with the additional transport connections and community facilities needed to support those homes.”

The plans, “developed by a consortium of world-renowned architects and planners” also include up to 3 million ft<sup>2</sup> commercial space. With three new schools and plans for a higher education or research campus alongside creative office spaces, laboratories and advanced manufacturing facilities. Brabazon “will act as a centre of learning and a launchpad for every type of business, from leading global firms and local start-ups shaping the latest technologies,” said FCBStudios. It will also be a “hub for culture, creativity and entertainment, connected to Bristol city centre and beyond,” with over £100m already being invested in the local transport network.

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# VIEW POINT



How can architects use place-specific data on design outcomes to have a meaningful impact in future projects? Rory Bergin of HTA Design proposes a change of approach

**I**f you can't measure it, you cannot manage it' has been the mantra of management gurus, data scientists and engineers for generations, with good reason. The premise is that if you collect data on a problem over time, aggregate it and analyse it for patterns, it should be possible to change the behaviour of people or systems to optimise the outcomes.

This thinking hasn't had as much of an impact on design, in part because designers aren't generally taught to use data. The question of whether there are ways in which we can use data to inform us in our efforts to design better buildings, social spaces and the networks that connect them, is not generally being asked in architecture education or practice. The type of data that is being used to drive design in London is often used in negative ways to direct design away from something; the sound monitoring of traffic driving orientation of buildings, the temperature data from remote weather stations driving microclimate design, or the demographic data on population growth and immigration driving local or national policy.

Little of this data is specific to the place we are designing for, its people, its character, use patterns and history. The arrival of cheap sensors and the Internet of Things (IoT) is meant to enable an explosion of potential in the management of our physical lives. Innovations like parking spaces that tell you when they are empty, fridges that order the milk for you, and other small but useful incremental changes that make our lives easier and reduce what is called 'friction', a short-hand term for the bureaucracy of daily life. But so far, these technologies have not fed into the activity of design.

The potential prize from data collection is enormous. If we could get to a position



At the new Hanham Hall zero carbon residential scheme in Gloucestershire, HTA is collecting data on resident satisfaction © Nick Harrison

where we have an evidence base to inform design that is specific to the place we are designing for, it would have a big impact on design behaviour and outcomes. We would move from a world where design is based on the personal ideas and ambitions of designers, planners, and other stakeholders, often based on assumptions or limited personal experience, to a world where design activity could be supported by an up-to-date and relevant evidence base. In my experience the use of data to support design in cities hasn't been specific enough to the place to be effective. To make data about a place meaningful, the data needs to be rich and specific to the place. Data collection is currently sporadic and patchy and often collected in situations where there is a problem, like crime data in a poorly designed neighbourhood. Data is rarely collected about happy people.

When it comes to the use of data for planning policy, data is collected for policy assessment or development, but the lengthy timeframes for planning policy decisions

often means that the societal drive behind policy will have changed before the policy is implemented.

Currently, place-specific data is often collected by app providers through our phones as a way of selling services to us. The ranking of restaurants and pubs, the photographs of tourists, the local bus timetable. But the generic nature of many of our apps, which have become the primary means of data collection, means that app users have access to information collected for a specific purpose but not enough access to a wider pool of data created by individuals. Where place-specific data exists, it tends to be held within a specific app, like restaurant rating tools, or exercise apps, whereas to be useful, we need this to be more widely available in a way that we can analyse it and derive meaning from it.

If we knew that 10,000 people use a park every weekend to go running, and 500 used it to take their dog for a walk, which use case would we prioritise when we design the movement routes in the park?



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## External pressures like the Building Safety Act and the Golden Thread will help bring in a better culture of data creation, storage and management on projects

At HTA we have begun the task of capturing data on our projects and monitoring this over time. It's a slow but valuable effort that will take time to bear fruit, and perhaps that is part of the problem with design data. We are all guilty of having a short attention span related to the design life of buildings and the task of data collection is a long-term one more related to the place. When buildings are completed, everyone related to a project moves on and there is little emphasis on collecting data or feedback.

Because there is very little activity to collect data on completed projects, the profession runs the risk of designing and constructing buildings that have the same mistakes in them as the last generation's version. Where we should aim to get to, collectively, is an evidence base on the successes of our schemes, as well as feedback on the things that didn't work so well. There are good reasons to collect positive and negative feedback, as positive data tells us what is working and can be used to provide an evidence base to reinforce reasons for repeating something.

External pressures like the Building Safety Act and the Golden Thread will help to bring in a better culture of data creation, storage and management on design projects, and this will eventually feed into the systems of clients who manage portfolios of buildings. Designers are increasingly being asked to provide data to enable investors to make comparisons between assets in different countries and under different jurisdictions. In an international market, data may become the currency that enables designers to compare themselves to the competition overseas.

There are many sound environmental reasons for the collection of data on buildings, as too often decisions are made based on aspirations rather than evidence. In my career we have gone through several cycles of silver bullets that would solve the



Cane Hill in Coulsdon, another site where HTA is collecting resident satisfaction data

environmental crisis, from biomass boilers, to Combined Heat and Power systems and finally arriving at heat pumps. Perhaps if there had been some better data at the beginning of all of this, we might have got to the answer quicker?

The growth of data around embodied carbon in construction is another case in point, and there are now a number of tools available for the industry to use based on large datasets, enabling evidence-based decision making. But is the data based on enough information, is there a good evidence base?

We also have the arrival of AI to complicate the situation. For it to participate in the effort of design it needs training data, ideally data covering the performance of buildings that work well

for their occupants, owners, society and the environment. That way, anyone who trains AI on design data that is available will do so knowing that they aren't going to repeat the mistakes of the past. The alternative is quite frightening, there is a real prospect of untrained users using AI-based tools to design buildings cheaply that repeat the mistakes of the past. Would you like a McMansion? Of course – here it is, or perhaps you would like a version of a French 18th century chateau? No problem.

Lets try and work together to provide the data that the future generation of designers need to ensure that the future is utopian – rather than dystopian.

*Rory Bergin is partner, sustainable futures at HTA Design*



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## PRACTICE PROFILE

# NBBJ

One of the world's top architectural firms, US-founded NBBJ built a global reputation among healthcare and major corporate clients, but despite its size still aims to place people at the heart of all its buildings. Laura Shadwell reports

Founded in 1943 in Seattle, NBBJ has grown over eight decades to support offices in 12 locations across the world including London, Boston, New York, and Shanghai. These offices comprise 18 studios and cover eight sectors. Sitting in the top 30 of global practices, NBBJ has a solid reputation in several sectors, as David Lewis (pictured above right), partner and lead of the firm's UK studio explains; "Globally, we're known as the architecture firm of choice for technology companies such as Amazon, LinkedIn and Microsoft, and we've always had a strong presence in healthcare, science and higher education."

The London office opened in 2001 designing the headquarters of state-owned Norwegian telecommunications firm Telenor in Oslo. It now has 50 staff and specialises in healthcare, higher education, science and corporate workplaces.

Recent projects to date include two major schemes at the University of Oxford and the University of Cambridge, and the new Royal Liverpool University Hospital which opened last year. Says Lewis: "We've found in recent years the crossover between healthcare and the growth in life sciences has been the perfect sweet spot for us, and we're relishing the opportunities."

With a global network of 800 staff ranging from architects, researchers and strategists to planners, interior designers and even nurses, the UK office has a huge pool of resources to draw from. Lewis elaborates: "Being part of a networked firm, we're able to bring the best thinking in design and research from a global perspective together with our local expertise." The practice's ethos – to ensure the best outcomes for the health of the building's occupants and the building itself – holds true for how they nurture staff; "Our values bring our mission to life, guiding how we show up for each other and our clients; we're guided by empathy, listening and emotional intelligence, and we lead with curiosity," he says.

### Measuring project opportunities

Darius Umrigar, principal and science and higher education director at the practice (pictured above left), explains that NBBJ measures each project against three "opportunities" when determining whether it would be a good fit for them: "We are committed to creating healthy places, strong communities and a resilient



environment, all while helping our clients create lasting change."

The practice claims a distinct design 'signature' that runs across their projects, as Lewis details: "The hallmarks of our designs are openness, daylight, variety, nature and connection," he asserts. "This is underpinned by a strong knowledge of our sectors and ability to create landmark buildings."

Examples of such features from recent healthcare and science developments include a daylit atrium filled with plants and greenery; space which can support "moments of rejuvenation and stress release through comfortable, hospitality-laden amenities;" open, daylit-lab spaces that connect 'outwards' to the atrium and outdoor decks (placing the emphasis on social interaction and informal collaboration); and encouraging communal areas to be open to the public, directly connecting to the community. "We believe design can enhance and uplift everyday experience," says Lewis. "All occupiable spaces should have access to daylight and there should be restorative spaces, especially within high-stress work environments," he adds.

The design of the new Dumfries and Galloway Royal Infirmary was an attempt to address a holistic experience for patients, staff and visitors. That meant a "clear identity," and "intuitive wayfinding," plus "safe and simple access, and high quality public and private spaces that maximise natural light, access to nature, privacy and dignity."

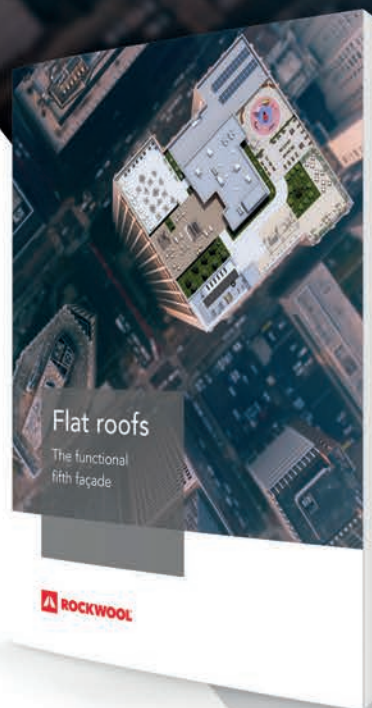
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Life and Mind Building, University of Oxford

## Methodically empathetic

NBBJ describe their design methodology as “an empathetic process that begins with listening.” Umrigar explains how this manifests in each project relying heavily on building relationships and good communication, by listening to all stakeholders – be it a commercial developer who’s seeking to attract the best tenants, or a patient group wanting to understand how their needs will be met – as well as through ‘visioning’ workshops. Umrigar elaborates: “After gathering insights, we explore possibilities by asking questions guided by empathy: Do hospitals have to feel clinical? Do we always need to build new?”

Umrigar cites a recent project that exemplifies this design methodology; The Life and Mind Building at the University of Oxford, due to open next year, will be the new home for the departments of Experimental Psychology and Biology, including Plant Sciences and Zoology, and home to 800 students and 1,200 researchers. He says: “Empathy, listening and close attention to the needs and wants of the future occupiers was so important in the early stages of briefing. The resulting design promotes engagement between the fields of research and education, taking advantage of the efficiencies and flexibility a shared building can offer.”

## Designing for a post-pandemic culture

Identifying how a company can balance in-person and remote work in a way that supports employee wellbeing while continuing to move the company forward can be a challenge. Designing workplaces with an emphasis on the individuals shapes the overall environment, an example being LinkedIn’s headquarters in California, which includes spaces for focus, collaboration, learning, and socialisation, but also spaces for rest. Employees can choose to work wherever they want, whenever they want. “We learned during lockdown that productivity goes up when workers have more personal agency,” says Umrigar.

## On a mission to reduce carbon

NBBJ has identified its major sustainability challenge as balancing the NetZeroCities (NZC) agenda with the technical needs of energy-hungry hospitals and research buildings. Lewis cites a net zero carbon hospital design – the Cambridge Cancer Research Hospital – which aims to “change the story of cancer” through combining cutting-edge research with treatment. Its goal is to halve the standard operational energy target through a holistic approach including passive design, a high-performance building envelope, onsite energy, and use/reuse of heat and cooling.

One of the key low carbon design drivers is enabling reuse or repurposing of the hospital for future changes in functionality.

“We’ve optimised space and cut carbon by creating a highly flexible floor plate that can increase the lifespan of the new building,” says Lewis. “This protects against future space redundancy and allows for new technologies to be integrated later.”

To support its sustainability goals, the practice launched its ‘ZeroGuide’, an open-source carbon reduction tool that AEC professionals but also clients can use to design reduced and/or ‘carbon-free’ buildings.

## Collaboration & JEDI ethics

Lewis explains how the London arm of the practice has led by example on collaboration, fostering knowledge-sharing within its project teams and across the firm; “We’re a tight knit community here in London. Keeping the best of the large firm mentality and resource with the small local boutique studio feel is really important to us.”

With a strong culture of peer review, the UK office hosts an annual Project of the Year awards event, inviting external architects (such as Amanda Levete and Amin Taha) and clients to evaluate their work, with a focus on projects that respond innovatively to climate change. Lewis explains the awards’ remit: “What projects ask the big questions, solve tough problems in new ways, blend beauty and performance, and reflect JEDI (Justice, Equity, Diversity and Inclusion) principles?”

NBBJ demonstrates commitment to promoting diversity within its workplace and industry, which directly benefits the quality of its work. The firm’s JEDI Ambassador Program, launched in 2021, is key for addressing pressing issues and creating safe spaces for discussion. Additionally, the firm’s “Inclusive Leadership” initiative focuses on leadership, team motivation, and effective communication on JEDI-relevant areas.

## Achievements

Continuing to build on an eight decades-plus legacy is one of NBBJ’s clearest achievements, and reflecting on the success of the practice in London specifically, the firm’s David Lewis asserts that its reputation among specialist sector clients has been a crucial factor. “Being in the UK for 23 years and establishing ourselves firmly in the key markets of healthcare and science, we’re privileged to have some of the most forward-thinking institutions and developers as clients, working in sectors which enhance life, and research into some of the biggest global challenges.”

The practice is firmly focused on developing the next generation of leaders, as well as being part of a larger story. The future will see NBBJ continuing to grow in science and healthcare, says Lewis, and “pursuing innovation and advancement to shape a brighter future.”

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## MIDTOWN BUS TERMINAL, NEW YORK FOSTER + PARTNERS

Designs for the Port Authority of New York and New Jersey's new Midtown Bus Terminal in Manhattan have been revealed. The project replaces the existing 73-year-old, functionally obsolete terminal with a world-class facility. Designed by Foster + Partners and A. Epstein and Sons International, the new 2.1 million ft<sup>2</sup> terminal will be a state-of-the-art transport hub, designed to meet projected 2040/2050 commuter growth and to address community concerns by eliminating bus traffic on surrounding streets. The building's "outward-facing retail" will benefit commuters and the local community alike, while making the building more permeable and inviting at street level, said Fosters.

As part of the \$10bn project, a section of 41st Street would be permanently closed to traffic, in order to create a large atrium, flooded with natural daylight through a central skylight, the atrium will act as a "new public space for the city." The back wall is fully glazed to animate the building's interior spaces and strengthen its connection with the street.

Centrally located escalators, stairs and elevators are clearly identifiable and provide a more inclusive journey through the space. The multi-story atrium also creates clear visual connections between the various levels, making wayfinding intuitive. The atrium can be accessed via two main entrances at street level or from the subway below ground. Voids between the ground floor and the subway level are designed to reinforce their connection.

Built for the future and designed to be net-zero emissions, the terminal will provide all-electric bus fleets and implement 21st century technology at every turn. A staging and storage facility and new ramps leading directly to and from the Lincoln Tunnel, built over Port Authority property to the west of a new terminal, will create added capacity for buses that now circulate and park on city streets in the surrounding community.

When complete, the project will introduce 3.5 acres of publicly accessible green space to "enhance wellbeing across the community," said the architects. The building will also include "visionary sustainability and resiliency measures," from LEED certification and clean construction to onsite renewable energy, zoned heating and cooling systems, and heat recovery and reuse technology.

The project is expected to be constructed in phases, with the staging and storage facility completed in 2028 to serve as a temporary terminal.





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## INDUSTRY VIEWFINDER

# A Year On: Progress on Part L, F & O

### Executive summary

In June 2023, the new Building Regulations Parts L and F (covering energy efficiency and ventilation respectively), as well as a new Regulation mitigating consequent overheating in residential projects (Part O), were introduced as mandatory requirements. The industry was given a year's run up to this deadline, as although the Regulations were introduced in June 2022, schemes which had submitted planning by that stage didn't need to adhere to the new, more stringent requirements for built fabric and efficiency generally.

The requirements are somewhat onerous for many in the industry, with the new Part L mandating a 31% reduction in the carbon emissions of new homes built (on 2013's Part L), but that can be achieved by using a mixture of fabric and renewable heating upgrades to previous specifications, according to individual design teams' needs.

However, according to some commentators in the design industry, the new Part L requirements on fabric-led energy efficiency did not go far enough, particularly given that they were a stepping stone to the imminent 75%-80% reductions required by the Future Homes Standard, planned to be introduced in 2025. Many have cited the fact the GLA requires new housing developments across London to achieve 35% more carbon reductions than Part L 2021, so arguably the 31% should be regarded as a moderate improvement.

Part F (covering ventilation) was also updated, to ensure that the ramifications of much more air-tight homes is mitigated by appropriate levels of ventilation to avoid health risks from moisture, mould and other pollutants such as carbon monoxide. This ties into the momentum created in tackling existing social housing by Awaab's Law, passed following the 2020 death of two-year old Awaab Ishak in a housing association flat in Rochdale, due to mould blamed on poor ventilation.

There are a host of challenges for designers and contractors in order to bring mainstream house designs up to this kind of level of performance, not least the ways to adopt energy-efficient designs

which do not drastically change their appearance for customers, such as via reduced window sizes.

As the industry confronted the June 2023 deadline for the tighter standards becoming mandatory (alongside the new Part O), we surveyed architects to test their perceptions, largely focusing on new build issues. We discovered a wide range of responses from these practitioners, the majority of whom were involved in new housing developments. Some of the findings confirmed expectations, however others were more surprising.

We wanted to find out their understanding of, as well as opinions on, the new changes, their views on how relevant they are to architects, and the design approaches they are already taking to meet the new Approved Documents L, F and O. We not only looked at their attitudes towards the challenges and benefits of solutions for new homes, but also for the non-domestic sector.

We were also delighted to be able to include the 'Expert View' comments of architect Chris Perry, from TODD Architects.

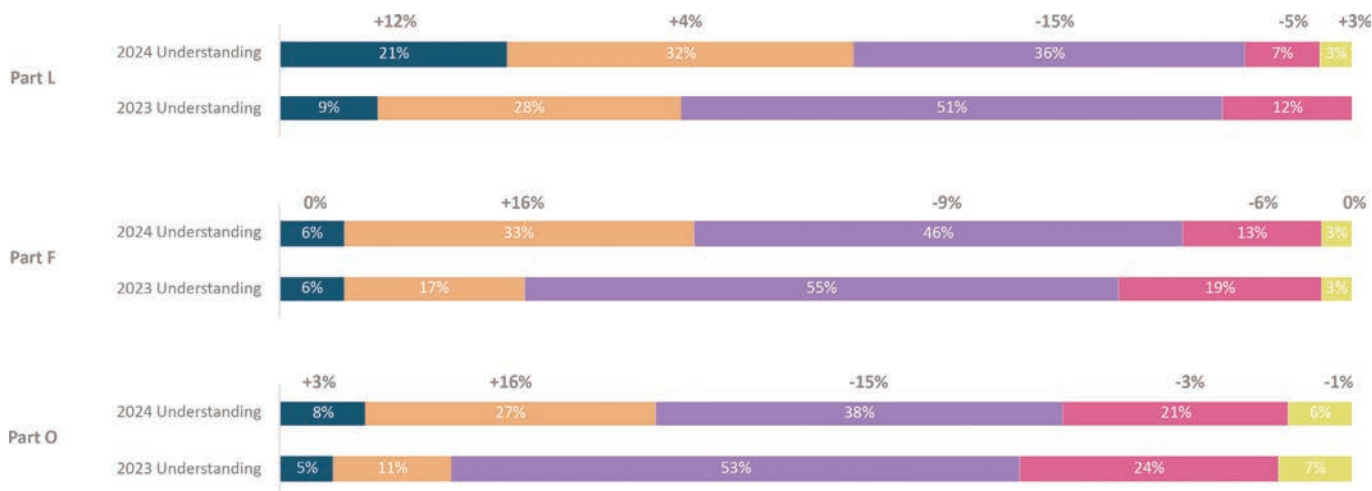
### Introduction

In February 2023 we surveyed architects on their knowledge of and approach to the updated Building Regulations Parts L, F and O (the latter being the new standard on overheating in new dwellings). The results gave pointers as to the industry's readiness to tackle the Future Buildings Standard (FBS) and Future Homes Standard (FHS), due to be implemented in 2025, which the Regs updates provide staging posts towards.

As well as looking at our respondents' views on the changes for specification, such as building fabric, we established which solutions architects were specifying to meet the new Regulations on their projects. A year on from the original study, we again canvassed readers on their experience, to find out how the standards are functioning and what has changed, but also discover their remaining issues, and views on the challenges upcoming in 2025. We were therefore able to track progress







Year on year comparison of understanding of the new Regulations: Very Good Good Acceptable Poor Very Poor

over the year by reproducing a series of questions from previous study for a direct comparison.

The results were largely positive, in that many architects and specifiers we surveyed reported that their knowledge of – and issues with tackling – the updated Parts L and F and the new O, had improved as expected since the mandatory deadline of June 2023. However, there were one or two surprising findings, where levels of understanding of the new standards had dropped for example, although these could suggest that the intervening year had thrown up new questions after the standards had been in operation on live schemes. Also, the arrival of the consultation document on the FHS in December has caused another wave of speculation and concern about the likely outcomes, and the new Parts L, F and O are fundamental components of this.

## Comparing progress

The consultation document on the proposed Future Homes Standard was finally released to industry in December 2023, however many in the sector and outside complained that the performance values required within it did not go far enough, and were inadequate for achieving the hoped-for carbon savings. UKGBC for one has been scathing about this perceived watering-down of the aims given our climate challenges, but our survey responses were inconclusive, with 31% saying that the consultation aims were not inadequate, and 41% saying they didn't know.

By contrast, there are industry concerns about the potential requirements for performance ratings such as for U-values to be given on each separate element of a building (such as individual windows), which could lead to smaller windows failing to comply, for example). A more holistic approach would be more fit for purpose and avoid such penalties, according to commentators.

In comparing our 2023 responses with those received this year, we were able to gauge the progress which had been made by architects on compliance following the updates to the Regulations, covering a variety of areas. These began with their levels of understanding, including in specific areas of Part L. We then asked them their views on the difficulties of the challenge in general, and in specific areas, as well as the main barriers, and the critical

priorities they perceived in designs for Part L, F and O compliance.

We asked respondents in 2023 – and again this year – to divulge the building technologies and solutions they were prioritising to achieve compliance, grouped under the 'eco' banner but spanning everything from thermal breaks and air-tightness tapes to district heating and battery storage. As sets of responses to several of the original questions asked in 2023, the results provide a useful comparison which threw up some contrasts as well as some similarities across the two survey cohorts of 2023 and 2024.

## Key regulation changes

The updated Parts L and F, and the newly introduced Part O, require a series of fundamental changes to specification in new builds in both the domestic and non-domestic sectors. In the domestic sector, in order to achieve the 31% fewer emissions required, the installation of solar PV renewable generation, alongside electric heating systems to replace current gas options, such as electric-powered air source heat pumps will be part of the solution adopted in housing designs, in many cases. However, all specifiers are likely to be increasing building fabric performance in the first instance, such as increasing insulation to deliver the more stringent target U-values required for walls, windows and doors.

In order to produce the designs required, the Standard Assessment Procedure (SAP) now includes a 'notional building' approach, which is a hypothetical building model created with the same dimensions, use, orientation and shading as the proposed dwelling. The notional building has a set of reference values within it which enable designers to determine the Target Emission Rate (TER) and Target Fabric Energy Efficiency (TFEE) required for a completed dwelling to receive Building Control approval under the new Part L (Part L1A). Many designers and housebuilding firms may already have adapted to such an approach, but we discovered that a large portion still see this as a challenge.

Many bemoaned the loss of the Code for Sustainable Homes under David Cameron's administration (alongside the capping of the pioneering 2016 Zero Carbon Homes target). However something of this endeavour has been retained in the 2021 Part L, which adopts the 'Full Fabric Specification' approach to achieving

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the Fabric Energy Efficiency Standard (FEES), which was first brought into use with the Code for Sustainable Homes in 2010.

FEES uses a whole-house calculation approach to set maximum limits on the energy demand that would normally be needed to maintain comfortable internal temperatures in a home. These are 39 kWh/m<sup>2</sup>/year for apartments and mid-terraced houses, and 46 kWh/m<sup>2</sup>/year for end of terraced, semi-detached and terraced houses. For a home to be 'FEES-compliant', the fabric must be of sufficient performance to ensure heating and cooling demand doesn't exceed these figures.

One other key change with the new Part L, affecting contractors more than architects however, is the introduction of a regime of photo evidence submitted to Building Control, to demonstrate that the work on site is in accordance with the performance requirements specified in the architects' design. This attempt to address the 'performance gap' is a step-change for many housebuilders; in the form of regular BREL (domestic) or BRUKL (non-domestic) reports proving construction rigour across projects.

### *U-values*

Limits have been placed on U-values for windows and doors in new homes (tightened from 2.0 W/m<sup>2</sup>K to 1.6 W/m<sup>2</sup>K). Within the notional building model however, the U-value target for windows and doors is now an even lower 1.2 W/m<sup>2</sup>K – this was previously 1.4 W/m<sup>2</sup>K. Meanwhile a maximum of 0.18 W/m<sup>2</sup> for walls has been instigated. Non-domestic U-values have been lowered too – 0.26 W/m<sup>2</sup> for walls and 1.6 W/m<sup>2</sup> for windows, to produce at least 27% less carbon emissions in combination with other measures.

### *Heating, hot water & ventilation*

Under Part L, new and replacement heating systems (both domestic and non-domestic) now have to work with a lower maximum flow temperature of 55°C. Under Part F, dwellings must be ventilated with a minimum 0.5 litres of fresh air per square metre. The new Part O (designed to mitigate overheating), introduces limits on glazing for new-build homes (as well as care homes, schools and student accommodation) as well as new levels of cross-ventilation, presenting challenges for designers trying to maximise glazing for clients.

Part L is split into Approved Document Part L1A, covering new homes, and Part L1B, covering requirements for renovations and extensions to existing buildings. Part L1B requires raised fabric standards, including on extensions and conservatories, makes SAP applicable to extensions, and introduces a maximum U-value for replacement windows of 1.4 W/m<sup>2</sup>K. Roofs on extensions and conservatories should have a U-value of no higher than 0.15 W/m<sup>2</sup>K; refurbished roofs should have a maximum 0.16 W/m<sup>2</sup>K. Extensions' walls have a maximum 0.18 W/m<sup>2</sup> U-value, and doors, windows and rooflights on extensions are limited to 1.4 W/m<sup>2</sup>.

### *Comparing the stats: One year on Levels of understanding*

The first question that we asked in the 2024 survey which directly replicated that 'How would you rate your understanding of the new Part L, F and O 2021 in England?'

This question saw some interesting varieties of improvement on 2023, with those rating their understanding of the Part L updates this year as 'very good' making up 21% of respondents. This was

over double the score recorded in our Industry Viewfinder a year ago (9%), but demonstrates that the upgraded Part L has rapidly become a familiar part of the range of parameters architects need to consider on new schemes. Overall the levels of architects responding to the survey in the 'acceptable – very good' group were broadly similar year on year, at 88% in 2023 and 89% in 2024.

However, in the category of respondents who believed they had a 'Good' understanding of Part L, there had only been a slight improvement, with 32% in 2024 believing they were at this level, compared with 28% in 2023. Also, perhaps slightly concerning, there were 3% saying they had a 'Very Poor' awareness, when no respondents put themselves in this category in last year's survey. This suggests that once the realities of Part L have bedded in, the complexities have been further revealed, or simply that not everyone is familiar with the requirements yet.

The new, tighter Part F saw identical results in the 'very good' awareness category (6%), but the 'good' category was nearly double (17% to 32%). This was reassuring news that for ventilation requirements at least, architects had exponentially increased their familiarity in the preceding 12 months, given that arguably many Part F aspects are principally the remit of M&E engineers. (Despite this, 54% of our respondents said that in their projects, the architect was responsible for Part F compliance, whereas only 29% said it was M&E engineers, and 11% the contractor.) Those saying they were in the 'acceptable' to 'very good' category had increased slightly from 78% to 84%.

And finally, for Part O, a brand new standard in 2022, and perhaps because of this fact, our respondents recorded an improvement in awareness year on year from 5% saying very good in 2023, to 8% this year. In addition, the overall amount saying they had an adequate or good level of awareness had risen from 69% to a healthy 73%.



### **EXPERT VIEW**

Chris Perry, senior architect at TODD Architects was an attendee at the Building Insights LIVE Round Table on Part L, F and O compliance hosted by Architects' Datafile in May 2023, shortly before the new regulations became mandatory. He has also kindly contributed his own insights for our Industry Viewfinder survey white paper, beginning with thoughts on how knowledgeable architects are required to be on the changes: "As we typically only work on large projects, we have MEP consultants take care of the Part F and Part O calculations, so we are slightly removed. We really just need to know the targets and the main principles; the calculation outputs sometimes seem like a magical art!"

### *Specific impacts of Part L*

Despite positive results in the year since we last surveyed architects, in terms of their understanding of the new standards' provisions, application of those standards depends on understanding the specific key changes brought in which could impact how they design buildings.

One key positive this year was that more architects perceived they had a better grasp of fabric aspects of reaching Part L's 31%



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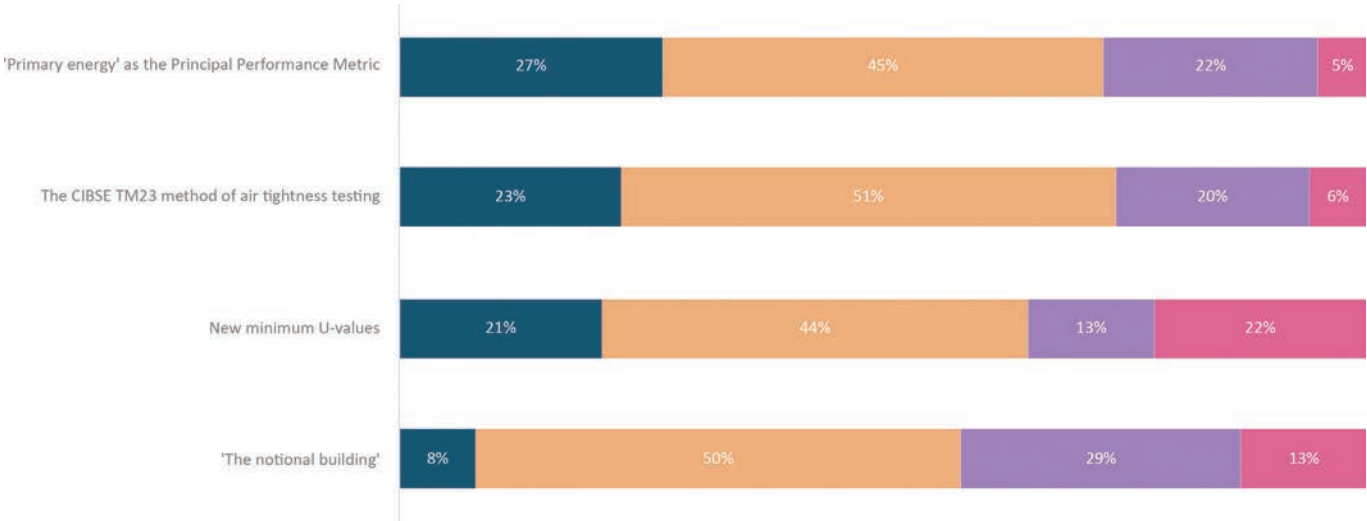


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Rating key factors and methods in terms of how challenging they are for meeting the new Part L requirements

Very Challenging Moderately Challenging Slightly Challenging Not At All Challenging

carbon reduction (arguably the key means of doing so).

51% said they had a 'good' or 'very good' understanding of fabric energy efficiency compared with 37% in 2023, while there was an 18% increase in those with a 'very good' level of understanding versus 2023 on the minimum fabric requirements for new Part L. However as a result of this there were slight drops in those respondents picking 'good' or 'acceptable' (down 5% and 8% respectively).

We asked architects how well they understood the introduction of the 'primary energy target' or 'primary energy rating (PER)' as the main metric for measuring a property's energy use, based on the fuel used as well as the fabric. Things had improved since 2023, with 48% this year saying they had a good or very good level of understanding. However, very good was only up by 3% this year, suggesting that this somewhat obscure method of looking at building performance (PER looks at the 'upstream' sustainability credentials of the fuel sources used for heating the house) requires more explanation.

With new builds now required to submit photo evidence of compliant constructions under Part L, we introduced a new question for 2024 to ascertain architects's confidence in whether the approach would address the 'performance gap' between as-designed and as-built performance. The responses were inconclusive: 32% saying it 'definitely would' address the issue, but the same number saying they didn't know, and 36% saying that it "definitely wouldn't."



#### EXPERT VIEW

Chris Perry of TODD Architects gave his view on whether the new 'notional building' model – for creating 'reference values' to achieve fabric and emissions targets against in the new Part L – was

actually a barrier to achieving compliance: "The whole notional dwelling specification concept is quite confusing, and a fixed target might be better; but it doesn't really impede anything."

## Assessing the challenges

We asked our respondents both in 2023 and this year how difficult they believed it would be to achieve the new carbon emissions reduction targets (31% lower emissions in residential, 27% lower emissions in non-residential) to ensure designs comply with the new Part L. The numbers of people saying that the emissions would be 'very difficult' to achieve in residential were similar year on year (30% this year, rising to 33% this year), but overall it was an improving picture, with 74% this year saying the reductions would be 'very' or 'slightly' difficult, compared with 83% last year, and 18% saying it would not be 'very difficult,' up on last year.

The slight rise in people saying that it would be 'very difficult' to achieve possibly suggests a similar factor to the arrival of a 3% recording of people saying they had a 'very poor' awareness of Part L's requirements in this year's survey. Namely that as the year has progressed since the mandatory introduction of the new Part L, the practical ramifications have both raised unexpected challenges, and further questions. This has only been exacerbated by the delayed release of the consultation on the Future Homes Standard at the end of the year.

In non-residential, things were promising, with 17% this year saying it would be 'very difficult' to achieve the Part L carbon reductions, versus 30% in 2023. Those saying it would be 'slightly difficult' had also increased, by 7% to 57%.

There were of course a series of specific barriers which remained to achieving the new regulations in schemes. We focused on Parts L and O, and firstly asked respondents what they saw as the main barriers to achieving compliance with Part L 2021. The no-surprises front runner – the cost of upgrading specs – had actually become a more significant barrier for a large proportion of respondents, driven by price inflation in the industry as well as perhaps greater awareness of the 'real' cost of Part L since its introduction. 71% said it was a 'significant' barrier for them in 2024, against 66% in 2023 (up 5%).

Possibly more concerning, given it relates more to the capabilities of the industry itself, was a still relatively high number of respondents saying that 'competency and quality of installation'

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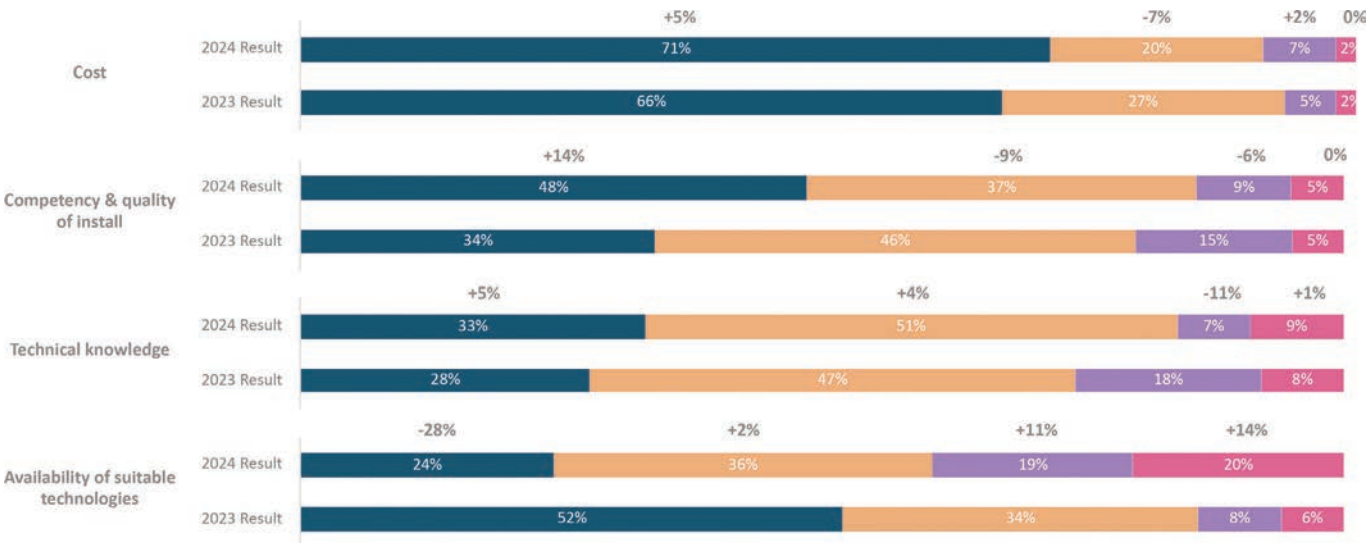
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Year on year comparison of perceptions of barriers to compliance with the new Part L ■ Significant ■ Moderate ■ Minor ■ No Barrier

(of products) ranked as a significant barrier for them. It remained the second most popular pick of the ‘barriers’ alongside ‘technical knowledge’ and ‘availability of suitable technologies,’ but it saw the biggest rise in importance of our four factors, up 14% on last year. This figure shows that manufacturers of solutions such as renewables and low carbon heating – and those tasked with installation including contractors – still have a job to do to persuade architects that their installer networks are robust enough for this to decline as a concern among architects.

Knowledge and availability were still in third and fourth place respectively, with similar scores to 2023, although the latter had improved slightly in a year, down to 24% from 28% in 2023 (a 28% drop as a prohibitive factor for our survey respondents).

We drilled down further to gain the views of respondents on some of the key issues which had been raised recently among the industry in terms of causing professional challenges for design teams in addressing the new Part L. The responses saw a shift from 2023, with primary energy (being used the ‘principal performance metric’ used to calculate a property’s energy use; the Primary Energy Rating), now seen as the main challenge (rated ‘very challenging’ by 27% of respondents, up from 21% in 2023).

The other challenges of minimum U-values, the adopted method of air tightness testing had not increased significantly. And the mandatory use of the ‘notional building’ was now seen as less onerous, with only 8% saying it was ‘very challenging.’ Nearly double that figure had picked it in this category last year.

### Part O: The heat is on

With Part O being a brand new standard in 2021, we devoted several questions in our 2022 study to its constituent parts and ramifications, from the overheating calculation methods, to the specific challenges raised for designers attempting to create much tighter buildings while mitigating overheating, and the preferred solutions. Replacing the SAP overheating risk assessment, Part

O raises a serious conundrum for many designers and clients, particularly in high-rise domestic projects, where expectations of window sizes may have to be drastically reassessed given the consequent overheating that may result from Part L U-values, and the now-common full height windows.

In both 2023 and 2024, we asked how challenging respondents believed a series of Part O-related goals would be in residential designs. Several areas had revealed themselves to be more challenging in terms of complying with Part O having bedded in over the 12 months, according to our survey.

Achieving cross-ventilation in apartment blocks was the greatest issue, ‘very or slightly’ difficult for 69% in 2023, but this cohort was up significantly to 84% in 2024. This was one way to comply with Part O however had seemingly revealed itself to be a greater challenge in designs than a year ago.

Minimising glazing in houses had become more difficult for 77% – who said it was difficult to comply with Part O in 2024, which was up from 73% in 2023. For apartment blocks this rose from 71% to 75% in 2023 saying it was ‘very or slightly difficult.’

However one area – avoiding mechanical cooling in apartment blocks – was proving less of a challenge (down from 81% in 2023 to 72% this year).



#### EXPERT VIEW

Chris Perry gave his insight on the conflict between designing highly efficient envelopes for Part L and the need to mitigate overheating driven by Part O, from his experience on London schemes:

“Overheating is the biggest design challenge, as it is very restrictive. We really want to avoid any form of active cooling, but it is impossible in apartment blocks in some parts of London (where Heathrow weather data is used).”





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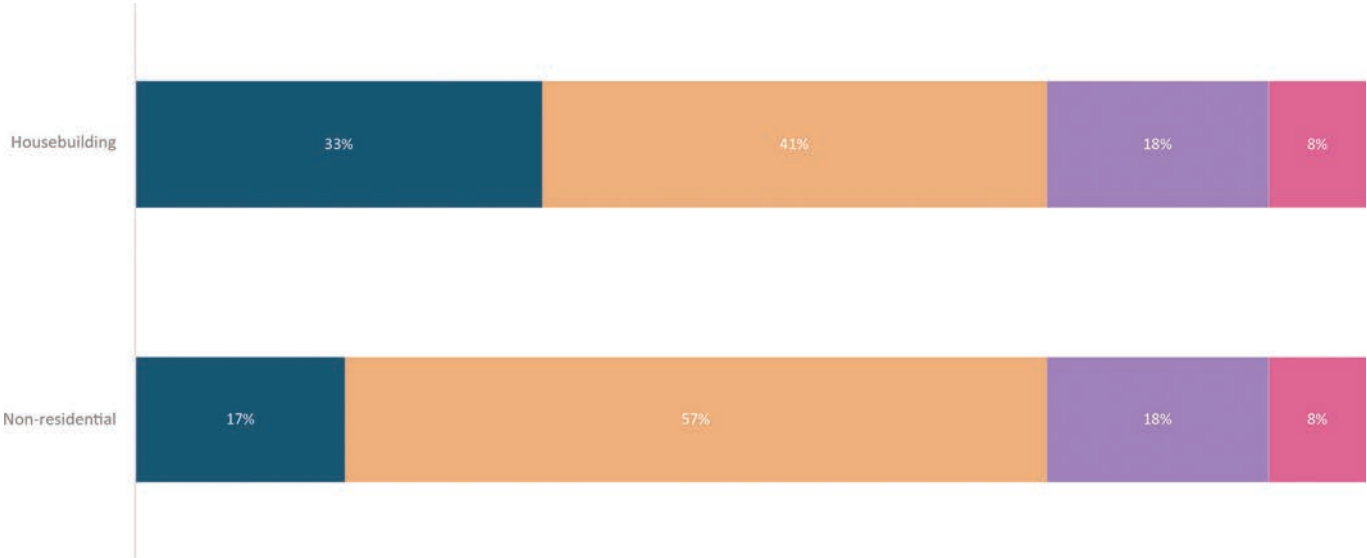
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How difficult do you believe it will be to achieve the new Part L carbon emissions targets (31% residential, 27% non-residential)

Very Difficult   Slightly Difficult   Not Very Difficult   Not Difficult At All

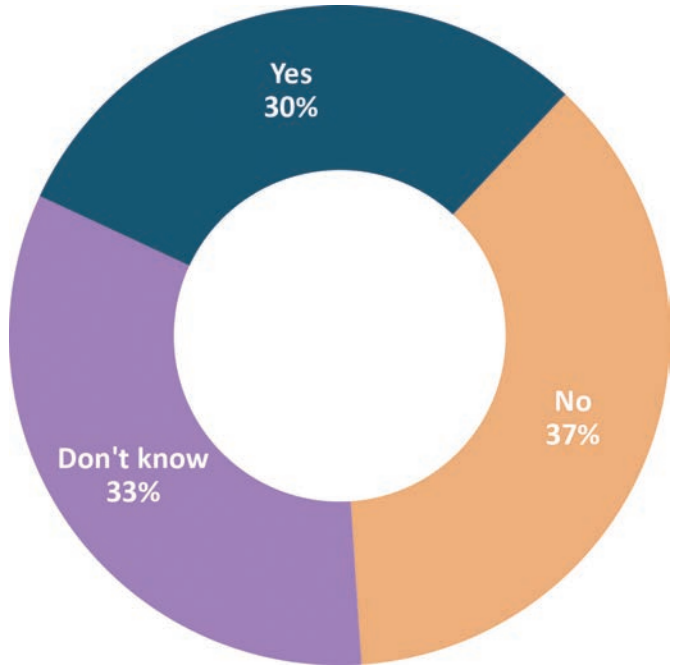
## Conclusion

Looking forward, the big question once the industry has become accustomed to the new parameters required to deliver on Part F and Part L, and the requisite balance to strike with Part O, is where the Future Homes Standard itself will take us. Also, will the new standard really be implemented in 2025, given the huge range of issues to be ironed out and the short timeframe, and if so will the aims be achievable, or further diluted?

Although the consultation on the standard has according to many seen a watering down of the performance aims, the new standard still represents a step up from Parts L, F and O, which as our survey shows, already causes a wide range of issues, from client consternation around design changes, to significantly increased costs. The Future Homes Standard is rumoured to be likely to cost significantly more – estimates range widely from around £5,000 to £30,000 per dwelling. The upper end of this is probably going to be prohibitive for many SME builders already facing major hardship in the market.

The response from our architect respondents on the prognosis for next year’s proposed standards, given their somewhat ambivalent reaction to the progress of the new Parts L, F and O, was equally equivocal. There’s no saying whether or not the standards will be able to be introduced as planned in the current industry climate, given the myriad other challenges it is facing, from inflation to global conflicts impacting supply chains, to stubborn levels of economic pressure on customers.

This level of uncertainty at least tells us that a lot more investigation and information on how to get there needs to be unearthed between then and now. As one focused example, our Industry Viewfinder surveys and white papers provide an intriguing snapshot of where our industry is, its progress on compliance, and which issues need addressing. We look forward to continuing to bring the industry similar insights and growing knowledge.



Do you believe the carbon reduction aims (75%-80% fewer emissions in new builds) in the Future Homes Standard will be realistically achievable by the construction industry in 2025?

For the full white paper including in-depth survey findings regarding product specification approaches for Parts L, F and O compliance, and on the respondents’ views on the upcoming Future Homes Standard, please visit our dedicated Insights site: [insights.netmagmedia.co.uk](https://insights.netmagmedia.co.uk)

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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.

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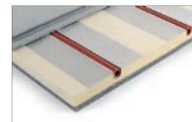
## CIBSE ACCREDITED CPD FROM IDEAL HEATING



Ideal Heating – Commercial Products has released a range of resources to assist people and organisations in their quest to transition to low carbon heat pumps. This includes the new CIBSE accredited Heat Pumps – Technology and Principles CPD the 'Roadmap to Decarbonisation – Planning Your Journey' white paper. The new CPD introduces the technology and principles underpinning the mechanics and operation of heat pumps in commercial applications, such as thermodynamics, refrigerants, and efficiency. It looks at the different types of heat pumps available, along with their strengths and weaknesses.

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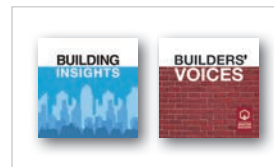


As an Architect or Specifier, staying current with the latest trends in soundproofing solutions is a must. Collecta's latest edition of its popular Soundproofing Solutions CPD covers the seven fundamental 'Specification Essentials' set by the RIBA and covers topics such as fire

safety, acoustics, building regulations, and robust details. With the rapid advancement of technology and construction industry developments, acoustics is an area to pay close attention to. In particular, understanding the different regulations of Part E of Building Regulations can be crucial.

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# Pendock metal casings – Project insights

The decorative, durable and weather resistant properties of metal casing solutions have long been recognised as key attributes by architects and specifiers, together with their inherent versatility.

Within the extensive range of decorative architectural casings manufactured by Telford based specialist, Pendock, its column casings, building linings and services casings all feature aluminium and stainless steel products. The following projects illustrate how the company's bespoke manufactured metal casings are being used in three diverse applications.

## UCL East Campus

University College London's East Campus at One Pool Street on the Queen Elizabeth Olympic Park, Stratford is using brushed stainless steel column casings to conceal structural steelwork.

Designed by architects, Lifschutz Davidson Sandilands (LDS), the building is constructed around two towers of 13 and 17 storeys. A total of 12 column casings are installed in groups of three at four external locations, on the third level of each tower, in areas that function as covered, open-air student relaxation and break out spaces.

Each column casing is 775 mm in diameter to accommodate the building's structural supports, and range in height from 3,215 mm to 3,370 mm. As the column casings are exposed to the elements, their stainless steel construction provides a weather resistant, virtually maintenance free and highly durable solution.

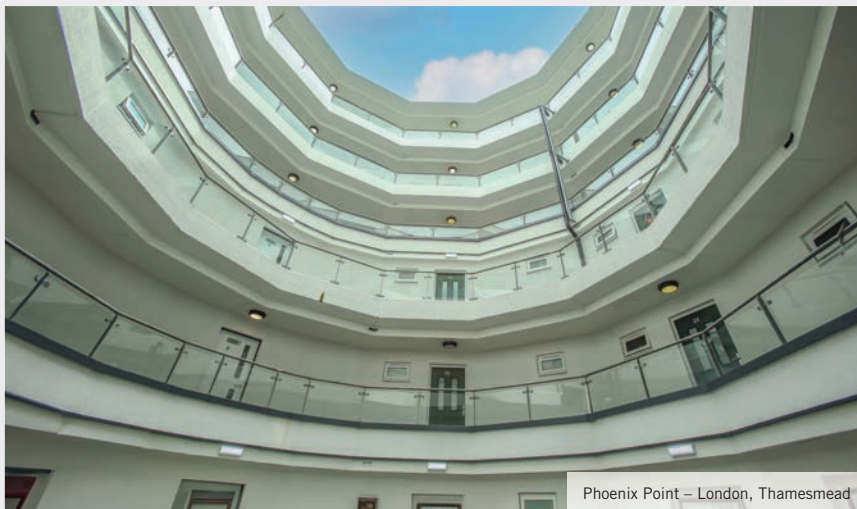


UCL East Campus

## Phoenix Point – London, Thamesmead

C-shaped and L-shaped aluminium casings from the Pendock Profiles range are being used to conceal heating pipework, electrical cabling and ventilation ducting at Phoenix Point in Thamesmead, as part of an extensive refurbishment and upgrade programme of flats located within the eight-storey cylindrical building. Originally built in 2008 on the site of a boiler house used for a community heating scheme, Phoenix Point's circular structure provides a mix of one and two-bedroom flats.

The Pendock casings are bespoke manufactured to match the form of the building and are located below the walkway on each tier. Incorporating a white PPC finish, the casings not only conceal building services, but also act as a mounting point for lighting outside each flat.



Phoenix Point – London, Thamesmead

## St James House – Telford

The transformation and repurposing of a former HMRC building (St James House) into new serviced offices in Telford, Shropshire, includes bespoke manufactured aluminium parapet capping from the Pendock Linea building linings range.

Manufactured from weather resistant 2 mm thick aluminium, the parapet cappings also incorporate a slate grey PPC finish to blend in with the existing column casings. The building's main entrance has also been given a facelift with a new canopy incorporating bespoke metal bulkheads and fascias, also from the Pendock Linea range.



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St James House – Telford



# BAL completes successful Environmental Audit

**B**uilding Adhesives Ltd – a market-leader in full tiling solutions – have successfully completed a recertification audit for the ISO 14001 (Environmental Management Systems) standard carried out by independent certification body BSI (British Standards Institution).

ISO 14001 is the internationally recognized standard for environmental management systems (EMS). It allows businesses to benchmark their current environmental performance and sets out ways to improve it.

The framework encompasses various aspects, from resource usage and waste management to energy use, transport planning, materials reuse and renewable energy generation. It also looks at how businesses are monitoring environmental performance and involving stakeholders in environmental commitments.

The audit process took place over two days and reconfirmed that Building Adhesives are meeting the standard which they first achieved in 2003.

Clare Brosnan, safety and systems manager at Building Adhesives, said: “The audit

reviewed the whole of the process and systems regarding environmental management, as well as investigating the businesses commitment to continual improvement. We did not receive any non-conformances and successfully retained our accreditation for a further three years. Thank you to all who supported and contributed to the process across numerous departments.”

“We can now look forward to six monthly surveillance visits to ensure compliance with the standard.”

David Hackett, managing director added: “This recertification confirms our commitment to environmental management and sustainability.”

“Sustainability is at the forefront of what we do, meeting industry standards through the product life cycle from raw materials sourcing, product manufacture and consumer use.”

“Our environmental policies, integrated into every area of its business activities, now influence everything from product formulation to supplier selection. They are under continual review to ensure best practice



implementation by all staff. As the long-established, acknowledged market leader – for tiling products, for technical support, for training – we aim to continue setting the tile industry standards in environmentally-conscious processes, procedures and policies.”

“Comprehensive compliance with statutory legislation and Best Practice procedures, form an integral part of our activities. We believe it is our responsibility to contain and minimise the impact of our business operations on the Environment.”

01782 591100 [www.bal-adhesives.com](http://www.bal-adhesives.com)

## Latest Specification Lighting Guide for 2024



Luceco Group are delighted to announce the release of their latest Specification Lighting Guide for 2024. The catalogue features over 1200 SKUs and is packed with brand new specification lighting

solutions, including over 250 brand new SKUs. The guide showcases an extensive new lighting controls section, Luceco's innovative energy-saving LED luminaires, as well as offering updates on the most popular ranges. Each section is colour-coded for ease of navigation, with detailed technical product information to ensure ease of specification and help you to make the correct choice.

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## Diffusion wins at prestigious awards



Diffusion, British heating and cooling equipment specialist, is celebrating scooping an award at the CIBSE Building Performance Awards 2024. The company's New Modular Highline 235 Fan Coil Range won 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 – an industry first. With compact dimensions and advanced components that deliver low sound levels, reduced energy consumption, optimal performance the Highline 235 also has significant sustainability benefits.

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## Vent-Axia scoops CIBSE Air Quality Award



Leading British ventilation manufacturer Vent-Axia is delighted to have won an award at the prestigious CIBSE Building Performance Awards 2024. The Sussex-based company won the 'Product or Innovation of the Year – Air Quality' category for its Sentinel Apex, the next generation of commercial heat recovery ventilation. The judges selected the Sentinel Apex, which they noted supplies fresh, healthy, filtered air to improve indoor air quality (IAQ), removing pollutants such as moisture, carbon dioxide and external fumes.

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## Bumper book reveals over 400 new products



Knightsbridge, a leading brand of wiring devices, accessories and lighting, has published its 2024 catalogue, available to the trade since February 1st. The handy A5-sized, full colour publication – which runs to nearly 500 pages – is rammed with over 3,000 products, including over 400 new ones, featuring the latest innovations in wiring accessories and lighting.

2024 sees Knightsbridge placing great emphasis on commercial lighting, and the new collection is truly comprehensive, covering bulkheads, downlights, battens, high and low bays, non-corrosive; and recessed, suspended and surface lighting.

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**BUILDING**  
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**SUNDAY MILLS**  
**WANDSWORTH**

# Shared opportunity

James Parker reports on how Assael Architecture achieved a pioneering co-living scheme which used a difficult site to the full to give single occupants and keyworkers a foothold in London, plus co-working and shared amenities to combat loneliness





#### BREAK DOWN

The warehouse-inspired design broke the building into two linked volumes, but with a variety of heights to break down the massing

Sunday Mills, in Earlsfield, south west London, is a new iteration of the co-living concept which brings the benefits of shared facilities to the fore, and resolves a site which was a long-running conundrum. Completed in October 2022, this is the first large-scale co-living project in Wandsworth Borough, providing 315 self-contained studios powered completely by low-carbon technologies. But it also has a 35% allocation of locally 'affordable' studios, targeted at keyworkers and young people leaving foster care in particular, giving them a rare opportunity to live closer to the centre of the capital and their workplaces, in high-quality homes.

Innovating in a use class which was lacking specific planning policies, Assael Architecture were commissioned to provide a scheme with an unusually high proportion of social and shared spaces and areas, to give residents a variety of ways to interact. Ranging from a roof terrace to a voluminous co-working space and shared kitchen, they were envisioned to create a new type of apartment block that would help avoid the isolation many renters can experience in the metropolis.

The project is operated by Build to Rent

and co-living specialist Folk, and it's their second co-living scheme in the capital, the first being the Palm House in Harrow by Hawkins\Brown, completed in 2022.

The clients at Sunday Mills (the name is taken from a poem by Louis de Bernières about Earlsfield) were a combination of co-living funders DTZi, and developer Halcyon Development Partners. Assael Architecture was initially engaged to develop a feasibility study for the project in July 2018. The architectural practice had been involved with reviewing options for the site on previous occasions for more traditional residential use, but the constrained, triangular plot, plus flood risk, previous industrial use and access issues – not to mention a nearby travellers' site – meant it was not pursued at the time.

Fast forward to 2024 and now this relatively quiet suburban corner of south west London – where a Thames tributary (the River Wandle, once described as the 'hardest working river in London') crosses the railway line east of Wimbledon Park, now contains an important housing milestone. The brownfield site was previously occupied by stacked shipping containers, but had virtually none of



the history of textile, paper and tobacco industry visible, instead there was a brick built shed plus asbestos roof. It is bound to the north and west by a Network Rail ‘eco corridor’, the river to the east, and a recycling plant to the south.

Sunday Mills has a relatively large quotient of affordable studios, with 109 of the units (35%) provided at discounted rents, something later co-living schemes will not be able to offer given recent London Plan policy. Starting at only £182 per week, a key part of the development’s success is that it enables workers who have found it impossible to live in London, to be located 20 minutes from Oxford Circus, or much closer to workplaces in the local area.

The architects looked to make the most of the riverside setting, and to maximise local connections; adding a new pedestrian bridge to Earlsfield, but also making some of the shared spaces within the project flexible for community use. The scheme also includes the extension of the Wandle Trail cycle route into nearby Merton; this is hoped to be created in 2025.

## Briefing

Discovering an absence of planning

policies for the emerging concept of co-living, whereby tenants share some facilities but have their own space, the architects undertook initial pre-application meetings with the client in 2018, promoting this as the way forward for the site. These meetings including touring the Old Oak co-living scheme designed by PLP. Following these discussions, a brief was established, and the scheme was submitted for planning in March 2019 and was approved at committee in July 2019.

Ed Sharland from Assael pays tribute to the client for giving them “a lot of freedom” in addressing the brief. “They trusted us, and were a progressive brand that were keen to do something a bit more interesting.”

Community engagement included a Community Investment Programme (CIP) initiated early on by the client team, and appended to the Section 106 in the approved scheme, with the aim to deliver a “shared vision” with the local community. Assael Architecture says this is “demonstrably influencing the building operation,” manifested in partnerships with community groups like a local food bank, river cleanups, a theatre company, and a

**The building is the first large-scale co-living project in the Borough, providing 315 self-contained studios powered by low-carbon technologies**









centre for adults with learning disabilities. The bigger picture of 35% of tenants being local or keyworkers on reduced salaries gives the scheme a particularly compelling tie-in to local social value.

Procurement was by way of a single stage tender, with the contractor appointed in September 2020. Assael were novated and construction began in November 2020, and was completed in October 2022 on time and budget.

### Overall design

The scheme, built using a Design & Build contract by McAleer & Rushe, was designed to “interact with and enhance” the riverside setting, say the architects, including with a new accessible pedestrian bridge connecting to the ‘Wandle Trail.’ Ground floor amenities such as the cafe and co-working spaces have been positioned prominently (the former at the glazed south east corner of the building behind dramatic, industrial-inspired steel elements), to “activate the riverfront and create a strong connection to the natural environment.”

The building responds closely to its constrained site, with two linked apartment blocks inspired by the site’s industrial heritage, designed to address the river and railway respectively. They have been carefully orientated for users’ benefit, and are connected by the double-height

entrance. The cafe and restaurant provide further connection with the outside, with seating spilling out onto a terrace area enhanced by the sound of the river.

The forms have been articulated slightly to offer more visual interest externally with a more organic, ad hoc feel, and better internal environments avoiding north-facing rooms. Each of the two connected blocks have been broken down into two further forms visually, of different heights (from six storeys to eight). Associate director at Assael Emily Newton explains the approach further: “We kinked the two blocks to avoid single-aspect north-facing rooms and long continuous corridors.”

The volume facing the railway contains the shared residents’ kitchen (on the second floor) and connected dining space, offering a place for residents to cook and eat together, share cookery classes, and socialise. Resident-run allotments on the terrace adjoining the kitchen contribute vegetables and herbs. There is a capacious roof terrace on the sixth floor, landscaped by Farrer Huley and Park Hood.

The first floor contains most of the amenity spaces, with the lounge and breakout area sitting above the central reception. Towards the east flank and overlooking the river are the library and bookable private dining room, and behind the circulation core is the ‘screening

### VARIETY

A wide variety of living spaces are included, including more ‘introverted’ nooks

**“We kinked the two blocks to avoid single-aspect north-facing rooms and long, continuous corridors”**

Emily Newton, Assael Architecture





#### CO-WORKING SPACE

The co-working areas are characterised by light and space, exposed services and earthy tones

room' with its cinema-sized screen and comfortable chairs. On the north end of the block is the 'co-working mezzanine,' benefiting from diffused daylight and a variety of spaces to work, and the fitness suite sits along the western flank.

Ed Sharland says he believes the co-working space will be "used extensively by residents," with a benefit that it enables them to "easily separate their work/life space and time," due to it being separated from the living spaces. "We know this has been an issue since Covid, and there has been growth in flexible working nationwide." There's also a plan to allow local residents to use the space on a membership basis. The restaurant, named 'Louis,' was opened in Autumn, run by a local restaurateur.

#### Industrial inspiration

The buildings' industrial-style detailing includes large dark grey metal-framed windows in the brick facades, and different red and pink brick used across the forms breaks up the facades and gives the feel of a series of buildings constructed over time, as the mills of the past often were. The varied

roofscapes include pitched roof gables and a lantern-style front roof, strongly conjuring a feel of old industrial buildings.

The warehouse-inspired, highly regular fenestration arrangement is leavened by the splayed, chamfered forms of the window apertures, whose deep reveals provide dramatic shadows at certain times of day. Says Emily Newton: "It creates a really nice zig-zagging facade pattern." And the external fire escape stairs are in dark grey metal, a further contributor to the proudly industrial look.

The industrial-style metalwork is a distinctive feature throughout, especially signalled by the external steel W-beams which support a section of the 'first floor' above the double-height glazed entrance, and add some dynamics to the overall look. There are also the vertical I-beam columns, and perforated metal balustrading, and all elements are in dark grey.

The external design language of earthy tones and unfinished surfaces, partly inspired by the river, continues in the interior, alongside notions of 'wabi-sabi' design (embracing "transience and imperfection"). Featuring a "pared-back

#### PROJECT FACTFILE

**Funder:** DTZ Investors

**Developer:** Halcyon Development Partners

**Architect:** Assael Architecture

**Contractor:** McAleer & Rushe

**Operator:** Folk Co-living

**Landscape:** Farrer Huxley/Park Hood

**Interior design:** Assael Interiors/  
Atypical Practice



© Luke Hayes



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material palette,” the design was undertaken by Assael’s dedicated interior design arm, Assael Interiors. Emily Newton comments that there is “always a benefit when we have that aspect in house, because we can work closely with the interiors department.”

### Living spaces

The building’s single-aspect ensuite studio rooms are generally 17 m<sup>2</sup> – plus some duplexes located within the roof spaces at 25 m<sup>2</sup> (and 30 m<sup>2</sup> for wheelchair users) – and all feature kitchenettes. Ed Sharland explains the focus on single-aspect as being an essential approach to support the multi-amenity concept here: “Dual aspect co-living rooms are difficult to achieve, with the building layout being more like student or hotel rooms.” He continues: “On these kinds of challenging sites, you have a responsibility to include the correct amount of optimisation density to make it work; you need a critical mass within co-living to enable you to provide those shared amenity spaces and the level of management they require.”

Creating that “critical mass” of co-living spaces also helps support the community

feel which is essential for this and similar projects to be a success. “Everyone who lives there is encouraged to use the amenity spaces, and it’s very attractive to people who are lonely. One of the big positives in the planning process was the potential to combat loneliness.”

The studios have been “meticulously designed to maximise space and light,” say the architects, through a combination of “smart” integrated storage, built-in joinery and full-height, opening windows. “We pushed for these as part of the warehouse aesthetic,” asserts Ed Sharland. The building’s concrete frame enables exposed soffits, adding thermal mass to benefit cooling, and provides generous 2.7 metre floor to ceiling heights.

Each studio comes with a double bed, and a Samsung TV, plus air conditioning and good storage, meaning people are able to move in without needing to furnish their home. However, beyond the pragmatic ability to live functionally in a central London site, the scheme has a variety of other key selling points which harness and support the benefits of shared living.

The building offers residents access to a

**The studios have been “meticulously designed to maximise space and light”**





© Luke Hayes

## STUDIOS

The studios have floor-to-ceiling windows, built-in joinery and 'smart' integrated storage

range of shared amenities and communal spaces, including a gym, yoga studio, and cinema, plus a large, well-landscaped roof terrace with great views across London. There are also a range of more private nooks around the building, such as within the central entrance hub staircase, and window seats on the first floor overlooking the river. Last but not least, there's a fully-equipped, 'Masterchef-style' shared kitchen, fitted out to a professional standard, and enabling residents to cook socially together if desired, helping to increase their sense of connection and community.

This is a '24-hour building,' predicated around the fact that many workers who will be tenants here will be on a variety of shift patterns. This means that the amenities will be available to tenants around the clock, making full use of the building functions, as well as creating a set of challenges for the operator such as staffing.

The development offers tenants a level of quality and finish which is comparable with that of a hotel, in the studios themselves as well as the various shared amenity spaces. For example, due to the care paid to acoustic insulation, the rooms facing the railway line are not troubled by excessive

train noise. As part of the fully-serviced nature of the compact studio flats, cooling as well as heating is provided which means windows don't have to be opened for a comfortable environment.

## Ecology & sustainability

The designers took various steps to try and minimise the impact on local nature. Careful consideration was given to the lighting levels, as well as the positioning of buildings to protect nocturnal wildlife and marine life, including bats and water voles around the site and along the river corridor. This all-electric development is BREEAM Excellent and EPC A rated, and placed life cycle assessment of embodied carbon at the core of the design.

Despite not being a requirement of planning the project's outset, Halcyon commissioned a Carbon Lifecycle Assessment. An analysis of material, efficiency and cost at each design stage saw changes including reusing the majority of the existing concrete slab (for piling mat and sub-base); reduced concrete slab and floor build-up, and switching to a brick-slip system. The assessment found embodied carbon for the product and construction

## PROJECT FACTFILE

**Planning approval:** July 2019

**Completion:** October 2022

**Occupation:** November 2022

**Site area:** 0.54 ha

**Gross internal area:** 11,166 m<sup>2</sup>

**Internal amenity area:** 1,657 m<sup>2</sup>

**External amenity area:** 520 m<sup>2</sup>

**Net internal area:** 5,887 m<sup>2</sup>

**Project cost:** £35m



stages was 544 kgCO<sub>2</sub>e/m<sup>2</sup>, below the LETI 2020 best practice target. Exposed concrete soffits to all studios and many amenity spaces provide thermal mass.

A range of green spaces were created, focusing on native species. Beehives, bat boxes, bird nesting, bug hotels, and wildflower meadow planting all contribute key biodiversity. The success of these measures will be measured over the next 10 years, as well as the performance of the roof PV arrays, and the communal heat pump system. Kit is currently being installed to monitor individuals' energy use in studios, and the client is exploring incentives for energy-efficient living.

### Building community spirit

The building is a rare combination of affordability and quality in the heart of the capital, creating a vital chance for tenants to be able to live closer to work. It's a testament to the dedicated and innovative work of Assael, Halcyon and the funders DTZi. Aside from the excellent facilities, the residents will benefit from 'all-in' rents inclusive of bills, which will help protect them from rising living costs.

Assael managed to arrange for two employees to spend a night in the completed scheme to experience it 'in the flesh,' and they comment that a strong post-occupancy 'feedback loop' is giving them lessons to feed into future schemes. This includes speaking to residents and operations teams to discover what is working well, and what can be improved.

Over the six-year duration of this project, a strong relationship was established between Assael and Halcyon. The latter refers to the architects' "deep commitment to deliver its design ethos and brand standards," and says that "in the absence of clear planning standards and on a tricky and constrained site, they worked to find innovative solutions that delivered efficient yet exciting architecture." This is one reason why the building gained the local support which was critical to its success. One of the most satisfying aspects for Assael is that their initial concept survived through to completion "virtually unscathed."

Nik Dyer of Halcyon underpinned this, saying: "Assael Architecture bought into our vision of creating an exciting and truly mixed community at Sunday Mills, and we are incredibly proud of the quality of the building, and the excellent feedback we have received from residents." ■





# Vicaima revolutionizes customer support and service automation with its transformational AI chatbot

In an era where flexible working is increasingly the norm and technological advancement moves at an ever-increasing pace, Vicaima is proud to announce the launch of their new AI-driven knowledge base, Vicaima24/7. This innovative tool is not just a testament to Vicaima's commitment to customer-centric innovation but a leap forward in providing round-the-clock support and answers to customer queries.

## Enhanced customer service

Vicaima24/7 stands out as a cutting-edge solution for providing continuous support and rapid responses to customer inquiries, considerably improving the user experience. This AI-driven tool is designed to seamlessly answer questions, guiding users to a wealth of information spread across installation instructions, maintenance advice, technical datasheets, and many other resources, thus ensuring customer queries are handled efficiently and effectively.

## Service automation

Unlike static websites, Vicaima24/7 is a dynamic, evolving platform. It automates repetitive tasks and customer service processes, saving valuable time and resources. This evolution in service means that Vicaima can adapt to changing market needs and advancements in its own product and service offerings, ensuring that the information and support provided are always up-to-date and relevant.



## 24/7 availability

One of the standout features of Vicaima24/7 is its round-the-clock availability. Customers can access this service anytime, anywhere, which is crucial in a global market with varying time zones. This constant availability ensures that support is always at hand, even outside conventional office hours, thus enhancing the accessibility and convenience of customer support.

## Efficient customer relationship management

Vicaima24/7 is more than just a chatbot; it's a tool for more efficient and personalized customer relationship management. By providing immediate and relevant responses, it helps build a stronger connection between Vicaima and its customers, fostering loyalty.

## Adapting and enhancing through systematic updates

A crucial aspect of this new solution is its capacity for adaptation and enhancement, aligning with the evolving needs of our customers. While the core functionality of Vicaima24/7 depends on our meticulously curated knowledge base, our commitment goes beyond static information. We at Vicaima

are dedicated to systematically updating this base, ensuring that the information remains relevant, comprehensive, and in step with the latest developments in performance timber door systems and customer needs.

Parallel to these updates, the chatbot tool itself undergoes continuous improvements. These enhancements are not just in response to technological advancements in AI and chatbot functionalities, but also a reflection of our deep understanding of customer interactions and feedback. This dual approach of updating the knowledge base and refining the tool ensures that Vicaima24/7 remains a dynamic, responsive, and cutting-edge solution in customer support.

To experience the benefits of Vicaima24/7, simply visit [www.vicaima.com](http://www.vicaima.com) (select United Kingdom version) and look for the bubble icon. Start a conversation by typing your query and receive immediate answers. For those who prefer spoken communication, a voice option is also available.

*Vicaima24/7 is more than a chatbot; it's a symbol of Vicaima's unwavering dedication to customer satisfaction and technological excellence.*

01793 532333 [info@vicaima.com](mailto:info@vicaima.com)



## Old meets new in the Cotswolds



Combining traditional craftsmanship with the latest building design techniques, this stunning property, set in the heart of the Cotswolds, comprises a period cottage with a contemporary extension built into the hillside. However, when the property is empty, such a remote location can cause concerns about security, prompting the client to specify shutters on all the windows and entrances. Naturally, when so much thought had gone into matching the old and new buildings, the aesthetic design was of paramount importance. By choosing Equilux security shutters from **Charter Global Ltd** they could be intelligently concealed within the honey-coloured Cotswold stone and when lowered, the anodised shutters' have a subtle matt silver finish which complements the natural choice of building materials. Installed at the time of build, the Equilux system incorporates a shutter within a structural lintel, providing an unobtrusive structurally integrated solution that still addresses the usual features of lintel design, but has the added benefit of acting as a high security shutter. The bespoke security shutters have been integrated into the property's Building Management System.

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## The Sash Window Workshop celebrates

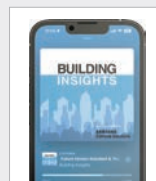


The Sash Window Workshop are proud to be celebrating 30 years in business. Established on the 11 February 1994, The Sash Window Workshop began operating from small converted pig sheds in Ascot. The business was founded by Richard Dollar,

who is still the majority shareholder in the company today. The company has grown substantially over the last 30 years, and today operates from two large purpose designed workshops in Bracknell.

[www.sashwindow.com](http://www.sashwindow.com)

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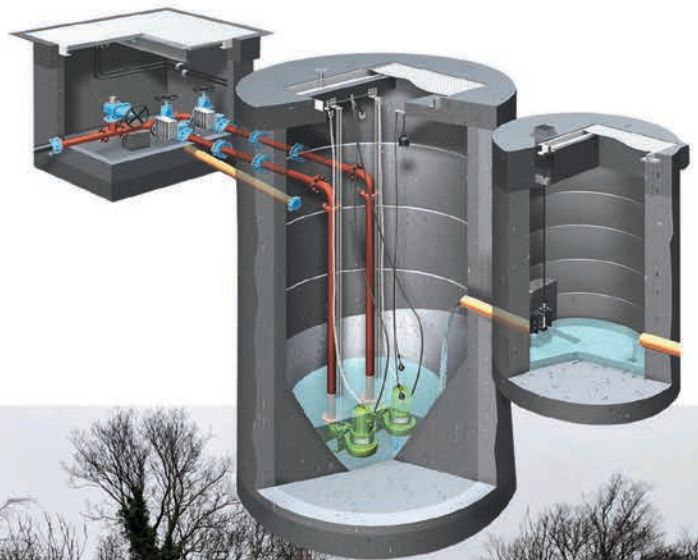
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# A more modern way to manage wastewater

David Stagg from Graf UK explains why innovative sequencing technology is the way forward for efficient wastewater management in developments

Nutrient neutrality that requires reductions in nitrates and phosphates, reducing ammonia levels in the effluent and carbon dosing – the world of wastewater treatment has become a dynamic, complex, and challenging one.

No longer is it just a choice between cesspool, septic tank, or wastewater treatment plant. Now there are options for wastewater treatment plants too – between conventional flow/activated sludge systems and those that employ advanced sequencing batch reactor (SBR) technology.

One of the main differences between these systems is that SBR combines several processes during the treatment cycle in a single treatment zone, in a chronological sequence which means a clarifier/secondary chamber is no longer required.

SBR systems run in batch cycles which generally operate twice or four times every 24 hours to ensure the treatment process is identical every time to produce high-quality effluent.

Continuous flow systems operate on a “what goes in, comes out” basis, so during periods of heavy loading/inflow the effluent travels through the system much quicker, potentially reducing the effluent quality.

The technology around SBR was implemented decades ago in Scandinavia, where reducing and monitoring phosphate and nitrate levels is common practice. More than 5,000 wastewater treatment systems with this technology have already been supplied throughout Europe to meet these challenging discharge constraints, achieving an independently tested 0.4 mg/l of phosphate removal with dosing and 1.6 mg/l without dosing for domestic systems up to 50 populations. Denitrification is used to reduce nitrates, achieving 7.9 mg/l. Larger population requirements would be designed individually.



## The system of choice

The SBR process is a modern method for cleaning wastewater. Due to its many advantages – its operational flexibility and excellent process control possibilities – combined with the need to meet the increasingly stringent environmental discharge standards, it is becoming the system of choice for UK designers/specifiers and consultants.

Bespoke designs utilising advanced SBR technology are allowing these influencers to meet requirements for decreasing discharge levels of phosphate, nitrate, ammonia, biological oxygen demand (BOD) and suspended solids (SS). They also bring potential design solutions for more challenging applications such as breweries, distilleries, dog kennels, dairies, and chicken farms.

SBR technology can be employed in recycled and recyclable plastic or precast

**The many advantages of the sequencing batch reactor (SBR) process for cleaning wastewater mean it is becoming the system of choice for UK designers and specifiers**





**An SBR system gives much greater control over the treatment process, which can be monitored and adjusted when needed to ensure optimum treatment levels are achieved**

concrete tanks, with the former being particularly eco-friendly and designed for installation using granular backfill, which is not only more cost-effective than concrete but also quicker to install.

A SBR system is operated by air power generated by a blower/compressor, which means there are no moving parts or electrical components inside the tank itself. This reduces maintenance and replacement costs and makes for a more efficient operation.

Depending on the treatment objective, the system can control oxygen levels entering the treatment zone allowing nitrification and denitrification treatment processes, as well as varying the duration, frequency, and arrangement of the cycle phases. The plant can therefore easily be customised to meet individual project requirements.

Another benefit of this more advanced system is it comes with underload detection as standard, which allows it to operate efficiently with up to 75% 'underload' – a benefit particularly for second homes which are often left unoccupied for long periods of time. If the system is likely to drop below the 75% underload threshold, carbon dosing makes up the shortfall, as well as enhancing the treatment performance, to ensure low-odour and even odourless treatment and extended times between tank emptying.

SBR technology also differs from conventional systems in that no growth bodies are necessary, as the SBR process does not require the plastic media which can clog and escape from the tank, polluting the environment.

As an alternative to standard batch cycle timings, SBR systems can also be operated depending on the fill level, according to the



inflow. If the system's "buffer" recognises that only a small amount of wastewater has entered, it can automatically switch to economy mode.

### Staying in control

An SBR system gives much greater control over the treatment process, which can be monitored and adjusted when needed to ensure optimum treatment levels. While it avoids the need for traditional tertiary/secondary treatment (such as reed beds which may become less effective over time and during the colder winter months) advanced tertiary treatment stages, such as UV, chlorination, and specialist sand filtration processes, are possible with the latest SBR technology.

Larger systems can be designed using multiple lines which can be combined and/or run independently, allowing 50% (two line system) or 33% (three line system) use of overall capacity when reduced loading (inflow) dictates. This style of design is ideal for holiday parks and camping/caravan sites which experience larger seasonal fluctuations in loading.

In a similar vein, a modular design principle can be used to future-proof longer-term projects where treatment plant capacity will need to increase over several years. Later phases can be added when the project growth dictates, and more capital expenditure is available.

Whatever the treatment processes, it is essential the system is commissioned by trained specialists who should also be responsible for its long-term maintenance and servicing.

*David Stagg is technical product specialist for Graf UK*

# Bauder waterproofing systems are now CCPI verified

## BAUDER making roofs secure.

As a market leader in bringing high-quality products and systems to the roofing and construction industry, Bauder is leading the way again, by adopting the new Code for Construction Product Information (CCPI) across its roofing portfolio to have information verified for accuracy and clarity to ensure specifiers can rely on the data when selecting a Bauder solution.

The CCPI was initiated by the Construction Product Association (CPA) as a direct response to Dame Judith Hackitt's review of Building Regulations and Fire safety setup in the wake of the Grenfell Tower tragedy. It was created to promote an urgent and positive change in the way the construction product manufacturing industry manages and provides information on its products.

By achieving conformance, specifiers and contractors that use Bauder systems with a CCPI mark can recognise that any claims made about them have been independently assessed and verified across 11 clauses, bringing a greater level of confidence across the supply chain. This provides greater clarity on product information so that the right systems are more easily selected in the right application. All records are also maintained for product tracing and system assurance.

The objective of the code is that any claim made about a construction product or system must be substantiated by appropriate, clear, and unambiguous evidence. It will help restore trust and help the construction

specification process to be safer and more robust. Together with the Building Safety Bill, it can also help make buildings safer.

Product manufacturers apply to Construction Product Information Limited (CPI), (who are the custodians of the code), for verification of their products or systems, and successful applicants must demonstrate their conformance to the relevant clauses of the code for these products/systems.

The code comprises 11 clauses covering a wide range of matters from responsibility for product information to accuracy and clarity of performance claims, general information, and competency of those involved in product information.

It helps to create a level playing field for manufacturers of all sizes and type, ensuring that the information provided to specifiers, contractors, installers, and other users of information pass five crucial acid tests. All clauses must be adhered to in order to successfully obtain a CCPI verification for product sets, and for product and system information these must be:

- Clear
- Accurate
- Up-to-date
- Accessible
- Unambiguous

As a leading supplier of flat roofing systems, integrity is at the heart of everything Bauder does. The company strives to be the best in its industry, and transparency is a vital part of its business model.

CCPI Verification for Bauder systems means that you can have greater confidence in the knowledge that you will have unambiguous information at your disposal when deciding which of our systems is best for your new build or refurbishment project.

Bauder is well on the way to getting each of its systems verified and has already achieved CCPI verification for various flat roof waterproofing systems including:

- Bauder Total Roof System PLUS
- Bauder Total Roof System
- Bauderflex
- Airtech
- Thermofol PVC
- Thermoplan FPO
- LiquiTEC Cold Liquid Applied Roof and Terrace System
- LiquiTEC Cold Applied Balcony and Walkway System
- LiquiTOP Cold Applied Liquid Roof System
- Bauder Bakor Hot Melt

For more information regarding Bauder's CCPI-verified systems please contact your Area Technical Manager.

01473 257671 [bauder.co.uk/contact](http://bauder.co.uk/contact)





## Mapelastic joins Zero line of carbon offset products



Mapei UK's Zero line of carbon offset products has been extended further, with the introduction of Mapelastic Zero. A two-component elastic cementitious waterproofing mortar, Mapelastic Zero provides permanent, durable protection of balconies, terraces, bathrooms and swimming pools, with CO<sub>2</sub> fully offset in the entire life cycle. CO<sub>2</sub> emissions – measured throughout the life cycle of products from the Zero line in 2024 using Life Cycle Assessment (LCA) methodology, verified and certified with EPDs – have been offset through reforestation projects and protection of biodiversity. The Zero line portfolio demonstrates Mapei's commitment to the planet, to people and to biodiversity. Fast and simple to prepare and apply, Mapelastic Zero provides perfect adhesion to substrates. The versatile mortar is highly flexible at low temperatures to -20°C, resistant to UV rays and has a very low VOC formulation. As well as application before tiling, it can be used to waterproof and protect a range of substrates including cementitious screeds and renders, concrete, concrete blocks, plasterboard and cement board. It also provides protection from CO<sub>2</sub> penetration to concrete surfaces for more than 50 years.

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## Sustainability takes centre stage



Newton Waterproofing ensured a dry future for the London School of Economics (LSE) on a basement project that managed to recycle more than 100 kg of waste waterproofing materials alone, and consequently prevent more than 132 kg of CO<sub>2</sub> emissions.

Newton's specialist basement contractor Cast Contracting Ltd (CCL) were appointed to design, supply and install the waterproofing, and used Newton's CDM waterproofing system, a safe and reliable form of 'Type C' waterproofing that comprises of cavity drain membranes, drainage, pumps and control systems.

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## ASWS involved in restoration of mansion



The comprehensive restoration and limited remodelling of a very large residential property has posed substantial challenges for all parties involved. The heritage architects and highly experienced main contractor called on the expertise

of ASWS. The Contract Director for ASWS, Kris Bennell, recounted: "This is one of the largest individual residential properties we have ever been involved with and presented a number of technical challenges, including the meticulous cataloguing and storage of all the component parts crucial to the authenticity of the outcome. We are proud to see this substantial home now fully restored and looking so good."

[asws.co.uk](http://asws.co.uk)

## Informative & entertaining round table events



Always looking for new ways to engage with our audience, *adf* now hosts round table events. With constant updates to building regulations, round tables are an ideal way to gauge industry concerns/problems, to future-proof your

marketing strategy. Hosted by our Editor, James Parker, we ask a diverse selection of our readers to attend, providing us with insights across the full spectrum of our audience. Sponsoring a round table enables you to position your brand/company as a voice of authority within the industry.

[insights.netmagmedia.co.uk/round-tables](http://insights.netmagmedia.co.uk/round-tables)



Official Police Security Initiative

## VBH joins Secured by Design

VBH, the hardware specialist behind the greenteQ hardware and furniture brand, has announced that it has joined Secured by Design (SBD). SBD is owned by Police Crime Prevention Initiatives (Police CPI), part of the UK Police Service. Its aim is 'design out crime' through a number of prevention and reduction initiatives across the UK. In the glazing sector, this includes a scheme to ensure the adoption of independently tested security hardware products on windows and doors for new build projects. These products, which must be proven capable of deterring or preventing crime, are known as being of a 'Police Preferred Specification'. At the time of VBH's membership commencing, 32 products from the greenteQ range and from selected VBH supplier partners have achieved Police Preferred Specification and appear on VBH's list of approved hardware. VBH advise that this number will grow steadily as more products are developed and are independently tested to the relevant security standards. The range is extensive, covering hardware, furniture and ancillaries for PVCu, aluminium, composite and timber residential entrance doors, patio doors and windows.

01634 263263 [info@vbhgb.com](mailto:info@vbhgb.com)

# Hit the Passivhaus balance

Vasilis Giannopoulos from Internorm explains how to meet the stringent demands of Passivhaus and EnerPHit while balancing daylight, insulation, and durability

The windows in any building, including Passivhaus designs, have a multi-faceted role. They need to provide abundant daylight, make the most of the views, ensure high levels of security, and unify the interior with the exterior space. Passivhaus windows must also reduce heat loss to a minimum, maximise useful solar gains in the winter – therefore optimising the energy balance – provide exceptional thermal comfort and eliminate radiant cold from the glass surface as well as draughts, as well as being long lasting.

## Heat losses – thermal insulation

Heat losses through the window primarily depend on the heat transfer coefficient (the  $U_w$  value) which quantifies the heat losses from the whole window, not just the glass. The thermal insulation depends on the performance of the glazing unit, the frame, the glass spacers and the interface between the unit and frame, and finally the installation detail. However, the latter factor depends more on the window design and architectural details rather than the window itself.

Windows for Passivhaus projects in the UK, as well as most of Europe, need to have  $U_w$  value for the installed window less than  $0.85 \text{ W/(m}^2\text{K)}$ . Standard high performing triple glazed units with argon gas infill and low emissivity coating (Low-E) are ideal for Passivhaus and EnerPHit projects. The  $U$ -value achieved for the glazing unit is in the range of  $0.5\text{--}0.6 \text{ W/(m}^2\text{K)}$ .

Units with highly thermal insulated frame profiles are typically in the range of  $0.8\text{--}0.9 \text{ W/(m}^2\text{K)}$ . In addition, warm edge spacers work by separating the panes of glass in double or triple glazing and are made from low conductivity materials. This significantly reduces the thermal bridge heat losses across the glazing unit.

Glass-bonding technology further reduces thermal bridge heat loss as the glazing unit is bonded to the frame. The bonding layer blocks the path between the frame and the



glazing unit, preventing high convection heat losses that would otherwise occur.

## Solar gain

The solar gains primarily depend on the solar heat gain coefficient of the glass, the  $g$ -value, and the total surface of the glazing unit. The building design and how the window is located, orientated, and shaded also significantly affect the solar gains. In the winter, we try to maximise the solar gains utilising the free energy from the sun.

## Thermal comfort

When the glazing surface of a window is colder than surrounding areas – exceeding a temperature difference of  $4.2^\circ\text{C}$  – people tend to seek warmer spots away from the window. Additionally, heat generated by human bodies is often lost to the cooler window surface, making occupants feel colder. Cold draughts further exacerbate discomfort as warm air in the room cools upon contact with the window, causing it to sink and create unpleasant draughts.

However, Passivhaus windows mitigate these issues by maintaining a surface





**Standard high performing triple glazed units with argon gas infill and low emissivity coating (Low-E) are ideal for Passivhaus and EnerPHit projects**

temperature within 4.2°C of that of the surrounding space, preventing cold draughts and minimising 'temperature asymmetry.' This design approach not only enhances comfort, but also allows for the creation of architectural features like window seats – popular in Passivhaus properties – where occupants can enjoy views even on cold days without experiencing radiant cold or draughts.

### **Passivhaus – hygiene & health**

Conventional windows, apart from the discomfort they create, can also impact health. The colder surface temperature means that the relative humidity on the window surfaces can be high enough for mould growth or condensation to occur.

Windows with exterior insulation properties keep the surface temperature above the mould growth threshold and dew point. Notably, even timber-aluminium windows – timber is more susceptible to mould growth problems, incorporating insulation between the aluminium cladding and the timber frame. This ensures that even the timber layer is kept comfortably above the mould growth temperature threshold; Mould develops

when the relative humidity of the surface exceeds 80%.

### **Longevity & airtightness**

The high energy efficiency of modern glazing units results in warm surface temperatures, low relative humidity levels of the surface, and absence of mould. These are prerequisites for the component's longevity.

There are no required airtightness performance criterion stipulated by the Passivhaus standard for windows, as it focuses on the airtightness of the whole building. However, Passivhaus windows need to be as airtight as possible, minimising the infiltration heat losses.

Additionally, when we consider a window's airtightness, in windy conditions, if the most deformed part of the window not able to cope with the prevailing wind load, the airtightness no longer exists. Glazing units that are manufactured using glass bonding technology can withstand wind pressure up to 2000 Pa, which is equivalent to a wind speed of 205 Km/h.

*Vasilis Giannopoulos is specifications manager at Internorm*



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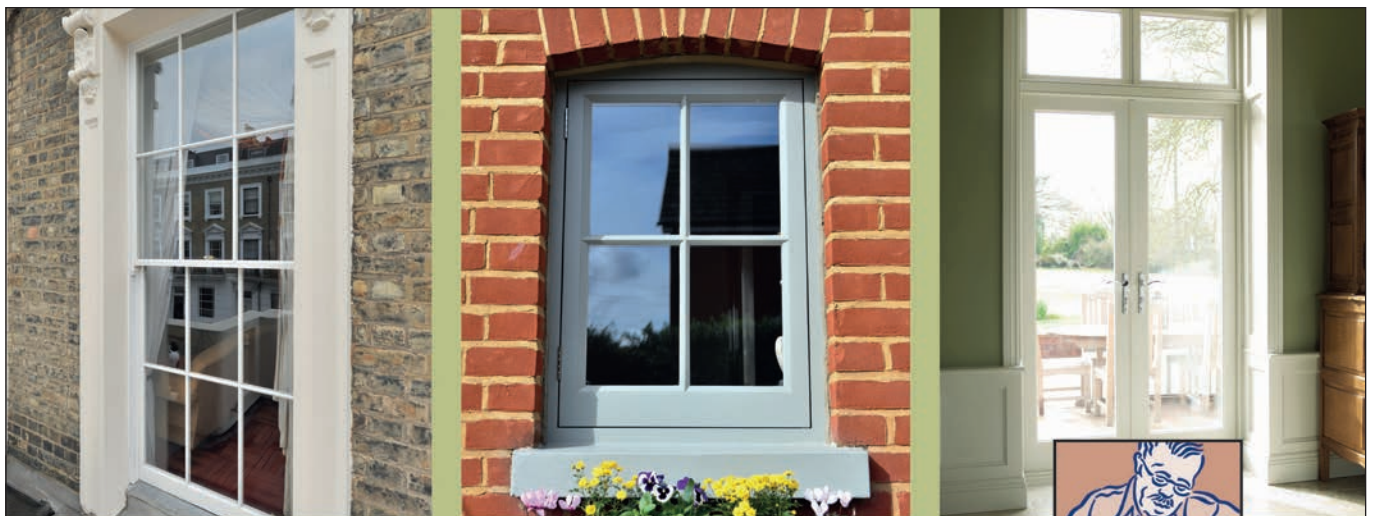
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# West London's revitalisation sparks surge in residential development

Sapphire Balconies attention to detail ensured offsite manufactured balconies were meticulously delivered in phases to align with the construction timeline. Nestled on Merrick Road, The West Works site occupies the north-west corner of the former Malgavita Works site, once a pioneering margarine factory and later the home of Walls sausages. Under the stewardship of Redrow, the site has been transformed into a modern residential hub, with two additional projects already completed on Merrick Road.

Comprising 489 apartments of various sizes and floor plans, along with a small commercial space, The West Works adopts a four-core concept, featuring a central courtyard and three core sections ranging from seven to 16 storeys in height. The standout feature of the development is the 22-storey Merrick Tower, distinguished by its striking brick cladding.

To cater to diverse preferences, The West Works offers a range of apartment sizes,



layouts, and balcony types. Notably, 92 apartments feature Sapphire's Glide-on™ Cassette® balconies, adding visual interest and flexibility to the design. Manufactured offsite in Sapphire's specialist facility, these balconies were meticulously delivered in phases to align with the construction timeline, showcasing efficiency and precision in execution.

Upon arrival at Merrick Road, the balconies were seamlessly integrated into the structure using cast-in anchors with thermal breaks, ensuring both rigidity and energy efficiency. While maintaining a consistent specification across all units, the project accommodated variations in balcony placement and decking materials, underscoring Redrow's commitment to customization and client satisfaction.

The West Works stands as a testament to the transformative power of residential development in West London, offering residents a blend of modern amenities, connectivity, and architectural innovation. As the region continues to evolve, projects like The West Works serve as beacons of progress, reshaping the urban landscape and redefining the concept of contemporary living.

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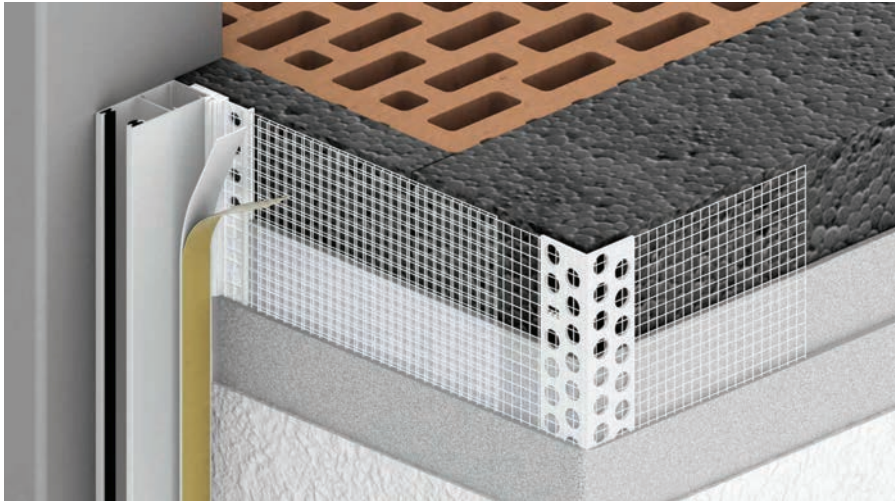
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# Fix project performance and aesthetics

Mark Newell of EJOT highlights how some of the latest developments in fixings and profiles are enhancing system performance and aesthetics



ETICS profiles perform a key role in the durability and performance of EWI systems as the corner bead angle and frame seal bead show here



Anchor marks visible on the rendered facade of a property treated with an external wall insulation system

External wall insulation (EWI) systems, which we also refer to as ETICS, are playing a crucial role in upgrading the thermal performance of UK homes and other non-domestic buildings. This is important not only in terms of reducing the built environment's overall carbon emissions, but also for enabling homeowners and building managers to reduce heating costs.

Technical innovation is undoubtedly driving ever higher performance possibilities from EWI systems, most notably in terms of thermal insulation levels, but also longevity and aesthetics. This means systems providers are continuously raising the bar, giving architects and specifiers ever more viable refurbishment routes for poorly performing buildings, and avoiding the need for demolition and replacement with new build.

Key to this ever improving performance are the latest generation of fixings and profiles used to attach systems to the building's existing facade. As with any type of building envelope system, it is only ever as good as the components that hold it all

together, so it is important to understand how seemingly minor design features in EWI attachment products help to optimise a system's performance.

## Secure anchoring and maximising visual appeal

EWI systems are typically designed with anchors which securely attach insulation to the substrate. Due to the different types of insulation available, including phenolic boards, EPS (expanded polystyrene), XPS (extruded polystyrene) and mineral wool, along with huge variations in the building's substrate, a range of anchoring approaches has been developed. Their principal design objectives include enabling easy installation using the fewest number of fixings and minimising the potential for thermal bridging.

The plastic washer and metal fastener combination that many systems utilise is, therefore, critically important to the long term success of an EWI system. So, it is important to look for ETA (European Technical Assessment) approved products, or those with other credible third-party certifications, for additional assurance when specifying.

Today's advanced EWI systems provide higher levels of thermal insulation by using thicker insulation, held in place by countersunk anchors. Without the right anchoring approach for a thicker layer of insulation, however, there is the potential for weak points in the thermal performance and 'anchor marks' to appear on the rendered finish.

This is due to insufficient treatment of the recess in the insulation, resulting from the countersinking process, which often means it is deep filled with render. As a result, the consistency of the insulation is broken, creating a difference in how heat and moisture transfer through the EWI system at those points.

One of the ways to overcome these issues is to use an anchoring solution, when used in combination with a special tool, this allows the anchor to be installed into the insulation to the correct depth in a controlled manner.

The installation tool cuts the area around the anchor washer and the insulation material is automatically compressed under the washer when the anchor is screwed in. An insulating cap formed using the same type of insulation can then be inserted flush into the recess between the anchor washer and the facade surface, allowing for a homogenous installation surface to be achieved.

### Understanding profile basics

Equally important to the installation simplicity and long term performance of an EWI system are the profiles. Innovative detailing in their design can make a significant difference to the quality of the rendered finish, particularly at corners and around reveals such as windows and doors.

Corner bead angles, for example, provide reinforcement to allow for the exact formation of 90° corners. They may feature a one-sided mesh overhang to achieve

an optimal overlap, as well as helping to prevent cracking. Other types of profiles serve specific purposes, such as drip edge profiles, which provide targeted water flow, and frame seal beads designed to create a permanent seal around windows and doors to prevent moisture ingress.

### Accommodating external attachments

Innovative fixings also enable the integration of secure attachment points within the ETICS facade for elements that will need to be installed once fully rendered. Planned attachments can be integrated within the EWI system as it is built-up, providing these are considered at an early design stage, which will be needed for safety critical elements, such as the railings for balconies.

Other elements that may not have an exact position set at the outset, such as brackets for downpipes, mountings for air-conditioning units and exterior lighting, can be attached to a completed facade with ease.

*Mark Newell is external thermal insulation composite systems specialist at EJOT UK*



An anchoring solution which enables the installer to achieve consistency in the insulation when recessing anchors and avoid anchor marks

## Sunsquare Skylights: Revolutionising roof design for architects

Esteemed for its pioneering contributions to the rooflight sector, Sunsquare consistently establishes benchmarks with its Skyview and Horizon Walk-On Rooflights, receiving widespread recognition from the architect community for unmatched quality and innovation.

The Skyview Rooflight, Sunsquare's premier offering, represents the epitome of design refinement and thermal efficiency. Distinguished as the first rooflight to receive the BSI Kitemark in its category, it meets and surpasses rigorous standards for safety, durability, and energy efficiency.

Boasting system U-Values as impressive as 1.05 W/m²K and an optional upstand reaching 0.92 W/m²k, the Skyview Rooflight exemplifies Sunsquare's commitment to architectural excellence. Furthermore, its 'CERTIFIRE' certification for fire ratings of EI30 or EI60 underscores Sunsquare's dedication to innovation and safety. The Horizon Walk-On Rooflights, in



contrast, epitomise the seamless integration of aesthetics and functionality for exterior applications. Specifically designed for terraces and rooftop spaces necessitating pedestrian access, these BSI Kitemarked roof lights permit abundant natural light to penetrate the interiors beneath, ensuring utmost safety and performance. Crafted to endure harsh conditions, the Horizon

series offers unparalleled safety and thermal efficiency, rendering it an ideal selection for environments where durability and design distinction are paramount.

With the recent integration into the Surespan family, Sunsquare will further revolutionise the skylight industry in 2024, with its Skyview and Horizon roof lights serving as symbols of innovation, safety, and environmental stewardship in the industry. By consistently surpassing the anticipations of architects, builders, and homeowners, Sunsquare solidifies its leadership in providing cutting-edge rooflight solutions, illuminating the path for future architectural design and building efficiency enhancements.

A highlight of this collaboration is the in-house bespoke production of insulated upstands, a clear demonstration of the synergistic relationship between Sunsquare and Surespan.

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## Garador's solar energy system outperforms expectations



Garador has announced that its solar based energy system is outperforming all expectations.

Last summer, Garador installed a vast array of 1600 solar panels on the roof of its Somerset factory as part of the company's long-term strategy to reduce the company's carbon footprint. The latest reports coming in now show that even during the winter months, Garador's new renewable energy system has been steadily outperforming predictions and expectations.

Garador's Managing Director, Jon Watson says: "With the latest figures in, we are delighted to see that our solar energy system is continuing to make a strong contribution to our power requirements. With the strong benefits of helping to reduce our carbon footprint and also keeping our overall manufacturing costs down; without doubt our plan last year to invest in solar energy was the right decision."

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## Wraptite® offers protection for innovative ecological house in the Outer Hebrides



The Wraptite external air barrier system from A. Proctor Group has provided the significant benefits of airtightness, enhanced build quality and protection from the elements for a sea loch facing property on the isle of North Uist in the Outer Hebrides. 7-22 Systems Ltd, an ecological construction business has built a small house and artist's studio utilising its unique, ecological, prefabricated offsite building system. The key requirements for the project at 27 Lochport, North Uist, included the speed of assembly, excellent insulation values, lots of natural light and the efficient use of space. Alex Durie, architect and co-founder of 7-22 Systems explained: "Using Wraptite, 7-22 Systems could pre-apply the breather membrane to each prefabricated component in their dedicated controlled workshop setting. The A. Proctor Group pre-cut the rolls to match the sizes of the external faces of each component, and then Wraptite tape was applied on-site to lap between the components. Wraptite has enabled 7-22 Systems to build to even greater quality, add another facet to their prefabrication, and provide the system with the breathable construction."

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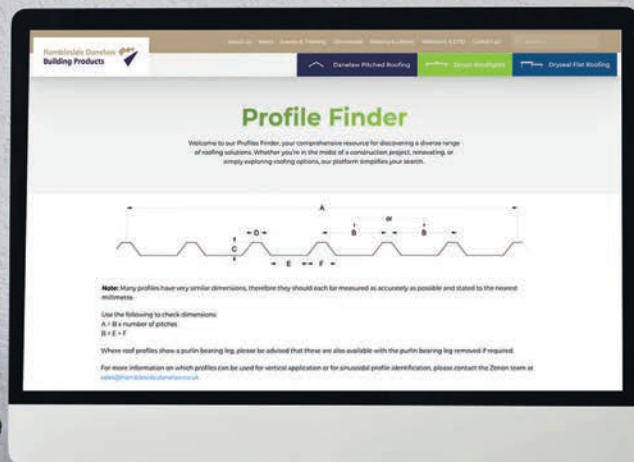
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## The Ultimate Guide to Conservation Rooflights



Stella Rooflight has launched *'The Ultimate Guide to Conservation Rooflights'*. Authored by industry experts, the independent Guide is intended to assist those looking to specify conservation rooflights by providing a wealth of knowledge and practical insights into what can often be a complex and confusing market. The Guide covers everything from advice on bespoke conservation rooflights, through to guidance on glazing specification, the implications of large rooflight installations, rooflight maintenance tips, guidance on planning and building regulations and much more.

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Having recently celebrated 50 years of its unique reconstituted stone rainscreen, Petrarch, manufacturer Architectural Panel Solutions continues to innovate. In 2024 APS has considerably bolstered its Downer Framing offer – The Original Helping Hand rainscreen subframe solution – in order to support every conceivable rainscreen application with investment in new systems

an expert technical team. Additionally it has released 'Downer Designer.' This free to use online platform helps specifiers, designers and specialist contractors optimise their rainscreen framing solution.

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## Sto system brings acoustics up to date

One of the leading Oxford University Colleges has seen its acoustic performance significantly upgraded thanks to the use of the StoSilent Direct acoustic ceiling system. It has been installed at Somerville College as part of a major project to upgrade both the acoustics and the lighting of the Grade II listed dining hall. "This was a complex project where the aim was to create a much-improved acoustic environment in the hall," explains Sto's acoustics project manager, James Gosling. "The hall is used both for dining and for formal events, so outstanding acoustic performance was a key requirement. The aim was to increase the amount of acoustic attenuation material within the moulded panels of the existing vaulted ceiling, but the chosen acoustic system also had to be sufficiently flexible to accommodate the new lighting system which was being installed. The project demanded close liaison between ourselves, the architect and the applicator in order to design and install the most effective and appropriate solution possible." The Sto system was completed with a StoSilent Top Finish to blend with the existing refurbished ceiling features.

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# Acoustic floor build-up ensures student accommodation exceeds document E standards

CMS Danskin Acoustics has worked with acoustic consultants Atelier Crescendo to arrive at a floor build-up which has contributed to achieving acoustic performance significantly exceeding Approved Document E 'Resistance to the passage of sound' 2003 standards at new student accommodation for St Catharine's College in Cambridge.

The accommodation provides two new houses and communal spaces for students to work and socialise. The project was designed by Cottrell & Vermeulen Architecture, and the main contractor was Conamar Building Services. Designed with sustainability in mind, the student accommodation has mass timber frames (mostly Cross Laminated Timber), triple-glazed windows and air-source heat pumps.

Internal base floors are cross laminated timber (CLT), which supports the sustainable ethos behind the design. CLT is increasingly used as it helps in locking

away carbon by using it as a long-term construction base and it reduces the use of concrete in floors. However, because CLT is around one third of the mass of concrete, it presents challenges acoustically. Its sound reduction index is poorer and its damping properties from impacts are also lower than concrete, therefore it requires an acoustic strategy to limit impact and airborne sound travelling through.

After taking into account the BREEAM® requirements, the criteria to be met for St Catharine's was that the airborne noise reduction must be over 48 dB DnTw and the impact noise must be measured as under 59 dB LnTw.

CMS Danskin Acoustics designed and supplied a floor/ceiling build-up using recycled materials to help improve the floor mass and enhance its impact absorbing properties. The strategy involved double REGUPOL impact isolation layers. Layers of 3 mm REGUPOL sonus eco, 18 mm Versapanel® from Euroform



and 15 mm REGUPOL sonus core were used to isolate impact sound, followed by a 32 mm Smartspan, which is finished with a timber floorboard or plywood underlay with vinyl.

CMS Danskin Acoustics also specified and supplied Kinetics IsoGrid hangers, a high performance hanger used for suspending ceilings where the maximum noise reduction performance is required.

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# 'O' for a balance between thermal comfort and health

Meeting Part O means achieving a balance between thermal comfort and healthy indoor air quality for residents; as James Fisher from Titon Ventilation explains

Ventilation plays a crucial role in maintaining a healthy and comfortable indoor environment in residential applications. It helps to remove indoor air pollutants, excess moisture, and unpleasant odours, ensuring better air quality for occupants. Additionally, ventilation supports the maintaining of good indoor air quality, preventing the build-up of heat that can lead to discomfort and health issues.

Overheating in homes can also pose various risks, including heat stress, dehydration, and an increase of health conditions. It is estimated over 4,500 people died in the UK in 2022 due to high temperatures, the largest on record in recent years. Effective ventilation systems, such as mechanical fans or natural ventilation are essential in alleviating overheating by promoting air circulation and cooling indoor space.

As dwellings become more airtight and the summers become warmer, ventilation choice is vital to provide the occupants with effective ventilation. The latest Building Regulations of Approved Document F (ADF) 'means of ventilation' and Approved Document L (ADL) 'conservation of fuel and power in existing dwellings' mean a continuous mechanical ventilation system is often required. Mechanical ventilation with heat recovery (MVHR) is the ultimate system – reliable, continuous ventilation providing balanced extract and supply air flow. MVHR systems not only recover heat from extract airflow during winter but also incorporate a summer bypass to mitigate heat gains. However, it's important to note that warm air from these systems can still enter dwellings during summer months; incorporating a cooling module enhances control over indoor temperatures. Additionally, MVHR systems effectively reduce the infiltration of unwanted air



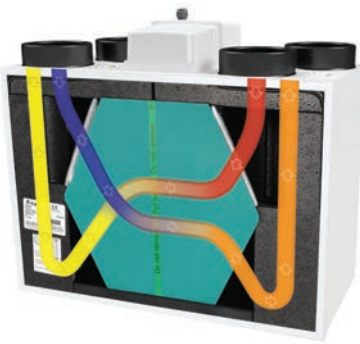
particles into dwellings, thereby enhancing indoor air quality. By incorporating high-grade filters, homeowners can alleviate pollution from outdoor sources while ensuring a continuous supply of fresh air within the dwelling.

Further Building Regulations were introduced to support indoor comfort with the addition of Approved Document Part O (ADO) released in June 2022. The new Building Regulation looks at overheating in new dwellings where people sleep overnight with the aim of ensuring 'habitable comfort.' The regulation does not affect pre-existing and commercial buildings.

ADO highlights two approaches for compliance; the simplified method and thermal dynamic modelling. **The simplified method** – considers factors such as dwelling location, orientation, window dimensions, solar gains, removing excess heat and cross-ventilation for residential properties.

**As dwellings become more airtight and the summers become warmer, getting choice of ventilation right is vital to provide effective solutions for occupants**





Secondly, thermal dynamic modelling is a method of building modelling that predicts the internal conditions and energy demands of a building at short time intervals using weather data and building characteristics and follows CIBSE TM59 (to an extent).

ADO states a preference for passive ventilation, if possible, but once natural ventilation solutions cannot be applied, then mechanical ventilation will be required. This means a change in TM59 which no longer uses adaptive thermal comfort and the required dwelling rooms will now not exceed a fixed threshold of 26°C for more than 3% of occupied hours.

### Integrated cooling solutions

External considerations such as noise and solar gains can affect the selection process of trying to remove excess heat from a dwelling. If passive ventilation is not an option, then an alternative option needs to be considered; one alternative is an integrated cooling system which fits on top of a MVHR system.

An integrated cooling system will assist in removing heat from a dwelling and can further enhance a MVHR performance by pre-cooling the incoming fresh air

## MVHR systems not only recover heat from extract airflow during winter but also incorporate a summer bypass to mitigate heat gains

during warmer months. By combining the benefits of improved air quality and energy efficiency, MVHR systems with cooling modules contribute significantly to creating more comfortable indoor spaces and supports ADO compliance, whilst recycling energy within a home.

As an example, Titon offers a matched cooling module that is a mechanical solution to provide filtered and tempered air during periods of warm weather for user comfort, as part of an overall heat recovery ventilation system that is easy to install and control. Combined with its HRV.25 MVHR, this solution has the ability to enable a perfect combination for mitigating overheating.

*James Fisher is commercial director at Titon*

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## SHORT CHIMNEY = CHIMNEY FAN

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

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

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

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

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

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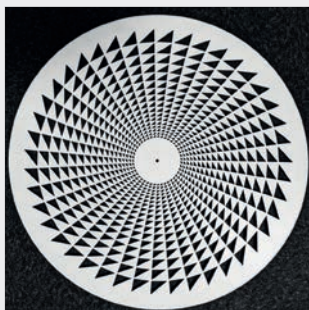
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## Sovereign By Contour Heating Ltd



Introducing Contour Heating's Sovereign range, the epitome of safety and style in heating solutions. Crafted with precision and care, the Sovereign radiators combine sleek design with unparalleled functionality, making them the ideal choice for various public spaces. With a focus on safety, Sovereign radiators feature safe corners and edges, ensuring extra accident protection. Their minimal water usage enhances controllability and rapid heating whilst promoting energy efficiency. The Sovereign range offers a variety of radiator types including floor standing, wall mounted, free standing and bench options. Designed to seamlessly blend into any environment, Sovereign radiators come in a range of colours and grille designs, offering customisation options to suit individual styling preferences. The innovative honeycomb grille design not only adds to the radiator's aesthetic appeal but also prevents items from getting pushed inside, making it perfect for school classrooms and other public spaces. Choose Sovereign radiators for your next architectural project and experience the perfect blend of safety, style, and functionality – [www.contourheating.co.uk/products/sovereign](http://www.contourheating.co.uk/products/sovereign)

01952 290498 [www.contourheating.co.uk](http://www.contourheating.co.uk)

## AET's Lunch & Learn CPD



Book onto AET's 'Lunch & Learn' CPD which has been designed to help architects deliver on all the key drivers that affect commercial building design today. It covers the evolution of the system over the past 30+ years, how best to apply the principles of UfAC to the design of a building, both refurbishment and new build, and the numerous

benefits of "going under floor" can bring. If you'd like to book a CPD, please email AET's sales team on [sales@flexiblespace.com](mailto:sales@flexiblespace.com)

01342 310400 [www.flexiblespace.com](http://www.flexiblespace.com)

## Nuaire BPS-ECO-HP Air Handling Unit



Nuaire has expanded its Boxed Packaged Solution (BPS) range of Air Handling Units (AHUs) with the BPS-ECO-HP; a unit with integrated heat pump charged with R32 refrigerant. The BPS-ECO-HP uses 20% less refrigerant than existing market competitors still opting for R410a. By using R32, the most efficient and lowest-Global Warming Potential (GWP) refrigerant on the market for an AHU, the BPS-ECO-HP is more efficient when carrying heat and has a lower impact on the environment. The R32 refrigerant has a GWP of 675, 30% lower than that of systems available on the market right now.

[enquiries@nuaire.co.uk](mailto:enquiries@nuaire.co.uk) [www.nuaire.co.uk](http://www.nuaire.co.uk)

## New E-Tech M electric heater from ACV UK



Hot water and heating specialist ACV UK is pleased to announce the arrival of its new multifunctional E-Tech M mobile heater, which offers a flexible new approach to mobile electric heating and helps keep disruption to a minimum. Designed to help speed up the screed drying process, the E-Tech M can also be used as a convenient backup heating solution. Featuring one plug-in that can work with up to six different sources of power from 3 to 36 kW and an automatic power detection system, the E-Tech M, which uses a 230 V electrical supply, is suitable for use in a variety of commercial and industrial projects.

01383 820100 [www.acv.com/gb](http://www.acv.com/gb)

## The opinions of the architectural community



As part of netMAGmedia's research offering, *adf* has been increasingly harnessing the knowledge and views of its focused readership to produce 'Industry Viewfinder' white papers based on reader surveys. These are documents which contain unique insights and data on a wide range of topics that are currently fuelling debate in the industry, from Passivhaus to Part L. This audience research, providing real-world experience, provides us with the opportunity to better understand the needs of our readers and tailor our content accordingly.

[insights.netmagmedia.co.uk/whitepapers](http://insights.netmagmedia.co.uk/whitepapers)



# All-round protection: The safe shower for secure settings

In safety-critical settings like mental health, secure prisons, and some supported housing facilities, prioritising user wellbeing and minimising harm is crucial. Horne's showers excel here, offering highly robust, pre-plumbed units uniquely specialised for challenging behaviours and environments.

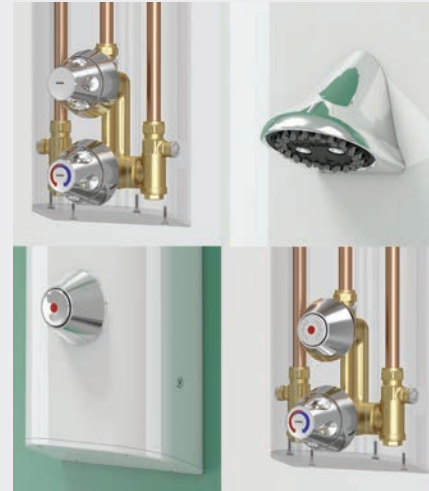
Built with a tough aluminium casing, Horne showers are engineered to withstand both accidental damage and intentional abuse, protecting internal components (user interference) and users from potential harm (burn risk from hot water supply pipe). Shower heads and controls are crafted from robust brass and die-cast zinc, and are designed with optimised geometries to mitigate the risk of self-harm, specifically via ligature.

At the heart of every design is its thermostatic control valve, a technology that Horne invented in the 1920s. Approved for demanding healthcare applications,

the integral mixing valve ensures safe, reliable, and consistent water temperatures, irrespective of water system fluctuations. A comfortable shower experience not only enhances user satisfaction but further deters interference and vandalism.

Testament to the above, Horne showers were selected by the Ministry of Justice for their Decency Showers Programme, aimed at enhancing shower facilities to improve dignity and welfare for prisoners. Horne has already supplied over 600 of their LR, ligature resistant units, with various flow control options, to multiple UK prison sites as part of this initiative.

Further advantages include off-site fabrication, with rigorous pressure and performance testing, enabling quick and straightforward installation. To maximise lifetime value and operational longevity, Horne designs also prioritise easy maintenance, and low-cost spare parts and comprehensive training resources further

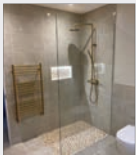


assist a prolonged and sustainable installation.

By prioritising user safety, equipment durability, resource and budgetary considerations, Horne's showers prove an indispensable asset for secure facilities seeking to enhance safety and wellbeing while optimising resources.

[sales@horne.co.uk](mailto:sales@horne.co.uk)  
[b.link/SafeSecure](https://b.link/SafeSecure)

## Beautiful wetrooms give a five-star finish



A stunning residential project in Longfield, Kent, saw multiple wetrooms installed and stylishly fitted with **Schlüter-Systems** products, creating both level entry access and a uniform look. The development began with a smaller specification of one en-suite bathroom. However, once the work

began and the homeowner saw the quality of work and systems involved, they requested further work to be carried out, including additional bathrooms and the uncoupling membrane Schlüter-DITRA-25 in the downstairs living area. This project has showcased some fantastic examples of Schlüter products in situ.

[www.schluter.co.uk](http://www.schluter.co.uk)

## OWA UK's metal ceilings get to work



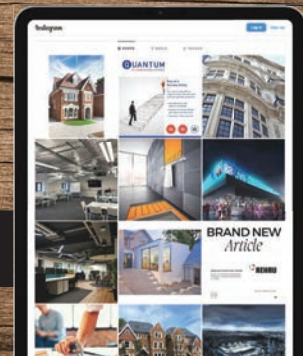
OWA UK has fulfilled its largest contract to date for its OWAtecta S80 demountable metal ceiling raft, with the innovative system being used on two of the buildings that form part of Assembly – a landmark riverside commercial office development.

OWA UK's OWAtecta S80 demountable metal ceiling rafts help disguise M&E installations while providing improved sound absorption and limiting noise pollution from floor to floor. OWA UK's acoustic ceiling solutions have been tailored to create comfortable communal collaborative spaces and ensure speech privacy in others.

[enquiries@owa-ceilings.co.uk](mailto:enquiries@owa-ceilings.co.uk) [www.owa-ceilings.co.uk](http://www.owa-ceilings.co.uk)

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# Zentia expands horizons with the grand opening of its Gateshead Innovation Centre

**Z**entia, one of the UK's market leaders in complete ceiling solutions, is excited to announce the grand opening of its Innovation Centre in Gateshead, created to contribute to the growing vibrancy of the North East as a national hub for architects and specifiers seeking inspiration and industry networking.

Zentia, previously part of Armstrong Ceiling Solutions, faced a significant rebranding in 2020 to separate itself as an innovative, quality brand. Zentia continues to offer the same high-quality products, but builds on its digital approach, and works to continually strengthen partnerships, connections and communication.

As a part of Zentia's mission for strengthening connections, it has created an Innovation Centre at its grid plant on the Team Valley site. It features a large conference space that can accommodate up to 60 people and is equipped with AV facilities for presentations, as well as a thoughtfully



designed ceiling grid that displays Zentia's latest product innovations. The centre also has two smaller meeting spaces that can accommodate six and 10 people.

The Mayor of Gateshead, Councillor Eileen McMaster, officially opened the Innovation Centre in early December,

signifying its importance as a regional and national milestone.

Graham Taylor, sales and marketing director at Zentia said: "We are excited to open our new innovation centre and provide architects and specifiers with a space to experience our products in a real-world setting. We believe that this centre will provide a space where architects and specifiers can come to learn about our products and how they can be used to create acoustically comfortable and visually appealing spaces."

Mayor of Gateshead, Councillor Eileen McMaster, said: "Zentia's new Innovation Centre is a fantastic facility and a testament to the company's significant investment in the Gateshead area. It's amazing to see a UK manufacturer creating local job opportunities for our communities and I'm confident that this will open up lots more opportunities for Zentia."

[info@zentia.com](mailto:info@zentia.com) [www.zentia.com/en-gb](http://www.zentia.com/en-gb)

## Handmade Terracotta Tiles from Parkside



Exclusively available in the UK from **Parkside Architectural Tiles**, Sugaroni is the authentic handmade terracotta tile for specialist restoration and exclusive interiors. Sugaroni has been handmaking terracotta tiles since 1685 with a list of projects that includes renaissance buildings and historic architecture across Italy. For restoration projects that need careful attention to the selection of traditional materials, Sugaroni handmade terracotta tiles are faithful to the techniques that have been used for centuries. The Italian company's products are now available through the specification experts at Parkside Architectural Tiles. With access to 1,200 different shapes and sizes, as well as the possibility for special products to meet the unique needs of restoration, Parkside can help to find the right solution for the most specific of requirements. Sugaroni's range is also ready for projects that want to create an interior with the unique atmosphere of handmade clay tiles. For luxury residential homes and hotels, the tiles bring a unique and exclusive look that can't be imitated.

0116 276 2532 [www.parkside.co.uk](http://www.parkside.co.uk)

## Wykamol launches ultra-thin ISO-THERM retrofit insulation



Wykamol has launched an innovative, patented textile-based thermal wall insulation which is ideal for creating dry and warm walls, primarily in retrofit situations, with the potential to save energy and protect properties from penetrating damp. ISO-THERM is an ultra-thin – approximately 4 mm thick – specially woven polyester-based material which, due to its flexibility and ease of use, can quickly be cut around light switches, sockets, radiator brackets, architraves, skirting boards and even complex shaped decorative mouldings. This therefore avoids the disruption and cost of employing additional trades such as electricians, plumbers or carpenters. The ISO-THERM membrane is secured to the brick or block substrate with Wykamol's unique ISO-THERM Adhesive, applied at a thickness of approximately 5 mm using a notched trowel. The ISO-THERM is then simply rolled into the glue before receiving a plaster skim coat, affording an overall finish of approximately 10 mm. The ISO-THERM material is both waterproof and vapour permeable and therefore does not support the growth of surface mould, instead allowing the wall to breathe.

01282 473 100 [www.wykamol.com](http://www.wykamol.com)



## Improve floor covering standards in social housing with Beauflor sheet vinyl



Beauflor® sheet vinyl floors can help landlords, authorities and associations to improve the flooring standards of social housing cost-effectively. With regulations in Wales and growing pressure in Scotland and England trying to lower the number of social homes rented to tenants without floor coverings, there is a move towards improving the standards of flooring in social housing. Sheet vinyl can eliminate many of the problems encountered with carpet that are faced by providers. They are also easy to maintain and durable, and easier to assess for condition. Sheet vinyl is also a cost-effective solution that can help to minimise expenditure on flooring. It is also easier to install than other smooth floorcoverings often chosen in social housing, again helping to drive down cost. Made in Belgium, Beauflor sheet vinyl flooring offers an attractive finish across a wide range of popular natural looks with benefits for the developer and tenant alike. For the housing provider, it's cost-effective, fast to install and durable helping to deliver value throughout its life cycle. Tenants benefit from a homely and comfortable floor that's hygienic, easy to maintain and safe to walk on.

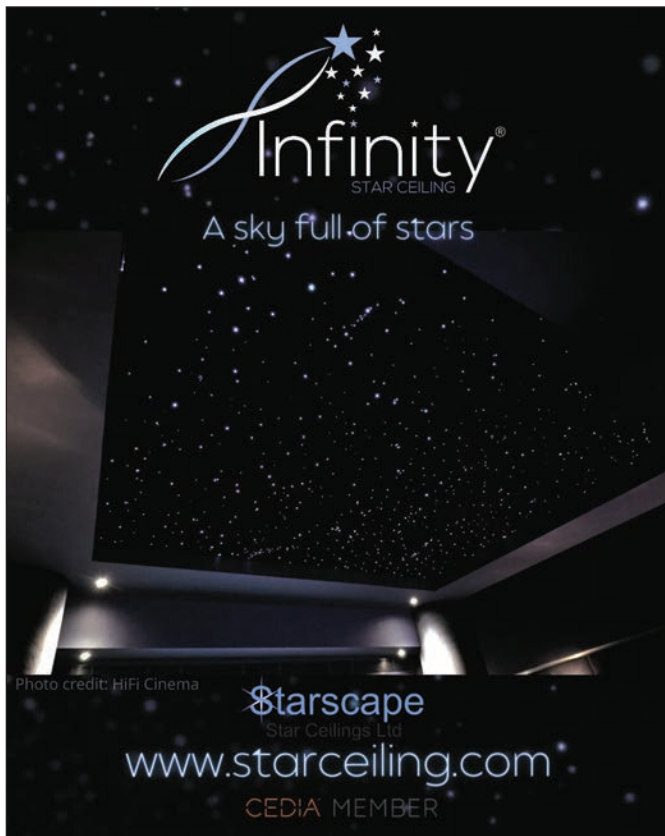
info@beauflor.com [www.beauflor.com](http://www.beauflor.com)

## Lee Valley and Luceco Luminaires in the spotlight



The Lee Valley Ice Centre, reopened in June 2023 following a £30 million investment from the Lee Valley Regional Park Authority, and with support from the London Borough of Waltham Forest, now boasts Callisto, the flagship luminaire from Luceco. Lee Valley, the only venue of its kind in south-east England offering state of the art dual Olympic-sized ice rinks, a fully equipped gym and dynamic fitness studios, now boasts a complete lighting solution thanks to the lighting, electrical and power giant, Luceco, with the company's Dimmable Callisto illuminating the venue's ice rinks, along with LuxPack, Climate Extra, Platinum, Contour, Celeste, LuxPanel and emergency lighting. Callisto, a contemporary linear LED surface mounted luminaire, offers over 100,000 hours of maintenance free, operational life and provides an efficacy of 135 Llm/cW, with lumen output variants ranging from 11,000lm up to 32,000lm. It benefits from IK10 rating so can be used in semi-industrial applications as well recreational and sports facilities, offering both wide and narrow optical light distribution.

uk\_sales@luceco.com [luceco.com/uk](http://luceco.com/uk)



## Tuscan Villa beauty by Keller Kitchens



The latest launch from Keller is the beautiful Tuscan Villa kitchen model. In this design, Keller has combined the island in the brand new colour, sesame, with a unit wall in cognac oak, a matte melamine shade. The bronze elements such as the handles, sink and tap, provide a beautiful contrast to the Roma Imperiale surface in polished ceramic. An added touch to the Tuscan Villa kitchen is the integrated dining table with enough space to seat four people.

[www.kellerkitchens.com](http://www.kellerkitchens.com)

## Mood match LEDs with Knightsbridge



LED Flex strip lighting from Knightsbridge is ideal for creating ambient lighting in kitchens, bedrooms and other spaces deserving colourful and energy efficient accents. Flex's low profile – from 1.5 mm to 2 mm – and 8 mm width makes it ideal for hard to access, space-constrained locations, while its 3M self-adhesive backing tape provides a robust and durable fixing. Waste is kept to a minimum because installers can cut the LED Flex to fit at 50 mm intervals and use the excess elsewhere, re-connecting it to other strips of product where necessary.

[www.mlaccessories.co.uk](http://www.mlaccessories.co.uk)



## TORMAX delivers safe access

Recently completed, the new multimillion pound bus station in the heart of Durham City, features 12 sliding doors that give travellers safe access to embark the buses at the appropriate time. Installed by NE&C Windows & Doors Ltd, the access points are automated by technologically advanced **TORMAX iMotion 2202** operators. Designed for reliability, TORMAX iMotion operators deliver an exceptional life-span thanks to their unique, Swiss-engineered design. With all parts that generally wear out, such as gears and brushes, having cleverly been removed, an above average life expectancy is delivered along with minimum maintenance requirements, reducing overall cost of ownership. iMotion also ticks the sustainability box too, with over 95% of the operators being manufactured from recyclable materials. Each of the 12 external bus bays is accessed through a TORMAX automatic single sliding door, allowing passengers to wait safely inside, with a clear view of when their bus is ready to board. The iMotion operators have also been fully certified for rescue and escape routes.

[www.tormax.co.uk](http://www.tormax.co.uk)

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# An open & shut case

Darren Hyde of the Automatic Door Suppliers Association, discusses why there is a clear cut case for creating and maintaining standards for automatic doors, and why they need to be reviewed against a landscape of fast-changing technologies, new products and client requirements

Standards – they’re just another hurdle to get over, right? Wrong! Standards provide a framework for safety, functionality, and interoperability which ensure that powered pedestrian door systems operate safely, preventing accidents and injuries to users.

They are the ‘unsung heroes’ in the ever-evolving realms of architecture, providing a framework of safety, functionality, and innovation to support architectural delivery, thereby underpinning architects’ commitment to excellence.

Automatic doors are not merely functional elements but integral components of modern architectural design. The adoption of British and European standards in the automatic door industry ensures that these installations meet rigorous safety and performance benchmarks. As the visionaries behind every structure, architects must also consider the safety and wellbeing of their eventual occupants. Standards such as BS EN 16005 provide comprehensive guidelines for the installation, use, and maintenance of automatic doors, guaranteeing a level of safety that architects can confidently incorporate into their designs.

It is also the standard that spearheads accessibility. British and European standards are designed to strike a delicate balance between aesthetics and accessibility so that architectural beauty need not be compromised. The range of automatic doors can actively contribute to making the overarching design visually appealing while making access easy for everyone, including people with disabilities. This commitment to inclusivity aligns with the principles of universal design, allowing architects to create spaces that welcome everyone without sacrificing design integrity.

Standards are created, reviewed and amended by a variety of organisations responsible for quality and safety in their own countries and harmonisation across



Images © Record UK

Europe. Each standard is given a number, preceded by the initials of the issuing body and followed by any revision date. The myriad of numbers and letters may be confusing, but understanding key standards provides essential framework to achieve the goals described below.

## Safety assurance

Automatic doors are a part of everyday life, found in public buildings, commercial spaces, and residential complexes. Standards help in identifying the right doors for their intended environment, use and users, and that they are properly installed and maintained to operate safely and prevent accidents and injuries to users.

## Consistency & interoperability

Standards establish a common language and set of criteria for the design, installation, and maintenance of automatic doors. This ensures that products from different manufacturers can work together

**Automatic doors are not merely functional elements, but integral components of modern architectural design**





**As the visionaries behind every structure, architects must also consider the safety and wellbeing of their eventual occupants**

seamlessly, promoting interoperability and ease of integration into various architectural designs and wider building management.

### Accessibility & inclusivity

Standards contribute to the development of access solutions for people with diverse needs, including those with disabilities. Adhering to standards ensures that doors are designed to be user-friendly, promoting inclusivity and accommodating a broad spectrum of users.

### Quality & reliability

Standards define performance requirements for automatic doors, ensuring that they meet quality benchmarks. This helps architects, specifiers, builders, and facility managers to select reliable products that will perform well over time.

### Regulations compliance

Compliance with specific standards may also be a legal requirement. Following standards ensures that entrance solutions meet regulatory obligations, helping building owners and operators avoid legal issues and liabilities. This will also help mitigate risks associated with the use of automatic doors and the potential for accidents, injuries, and property damage.

### Global recognition

Standards are often developed with international input and collaboration. Adhering to recognised standards provides consistency and recognition on a global scale, making it easier for architects and builders to work on international projects.

### Technological advancements

Standards evolve to incorporate technological advancements. This allows architects to integrate the latest technologies, such as sensor systems, energy-efficient features, and smart building capabilities, into their designs while ensuring compatibility and safety.

Architects constantly strive for designs that integrate technology and aesthetics, understanding and adhering to British and European standards in the automatic door industry is paramount.

As architects continue to shape the future of our built environment, the Automatic Door Suppliers Association (ADSA) is committed to remain a critical player in helping achieve a harmonious blend of form and function. By embracing

and championing British and European standards, architects not only ensure the safety, accessibility, and performance of their designs but also contribute to a global standard of excellence. In doing so, they pave the way for a more inclusive and innovative future in architecture, where every detail is a testament to the commitment to quality and the pursuit of architectural brilliance.

### New standards

EN 16005: 2012 has been under review since 2018. All EN standards are reviewed every five years. During this process, many CEN member countries asked for clarifications on the details of the current standard. The standard setting body continued to work on revising the European wide standard and CEN has now published a new version EN 16005: 2023. This means that new BS/IS versions of the standard will soon be published.

The EN: 2023 version of the standard has not currently been harmonised or cited in the Official Journal of the European Union, and the BS EN version will need to be added to the Designated Standards list in the UK.

The standard is not retrospective, so all doors fitted before the UK publication date need not comply.

Each national setting body (BSI/NSAI) must withdraw the previous standard EN 16005: 2012 and replace it with the new one. This process must be completed by e30 June 2024. The main changes include:

- Amendments to the risk assessment for vulnerable traffic
- Additional safety dimension drawings to highlight typical hazard prevention measures
- Revision of finger protection minimum height (1.9 m)
- Detailed construction requirements for barriers (for both barriers at 90° and in the same plane)
- Additional safeguarding and test for revolving doors.

All companies specifying, supplying, installing or servicing powered pedestrian door systems should work to the new standard – once it has been published and released.

*Darren Hyde is technical and training manager at the Automatic Door Suppliers Association*

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## Titan Lite deals with 200mm movement range at Amazon Data Centre



One of FIREFLY's regular customers is currently making use of Titan Lite™ 120:60 fire barriers to create compartmentations to protect multiple zones within a huge new Amazon Data Centre at Hemel Hempstead, where the possible degree of structural movement predicted for the building prevented the manufacturer's competitors from offering a viable solution. Amersham based GSI Contract Services Ltd. is approximately halfway through a year-long specialist sub-contract for TSL, installing the high-performance Titan Lite™ 120:60 along all of the floor and roof junctions to the internal partitions, providing both integrity and insulation while accommodating relative movement of +/- 200 mm. FIREFLY's area Technical Sales Manager, Andy Greenwood, was closely involved in offering advice on the specification and supplying project specific installation details. Site training of GSI's operatives has also been delivered. FIREFLY Titan Lite™ 120:60 has been developed as a flexible fire barrier to provide compartmentation of larger concealed spaces within different types of buildings including factories, warehouses, healthcare facilities and even railway stations.

01706 758817 [tbafirefly.com](mailto:tbafirefly.com)

## 12mm Magply Boards ensure sustainable SIPs panel passes fire test



IPP Ltd.'s widely specified Magply Boards have been successfully employed by the Surrey based manufacturer of an innovative new Structural Insulated Panel – or Bio-SIP™ system – in order to achieve compliance with EN-1365-1 and demonstrate the environmentally produced solution can be utilised for even more types of construction. Qube Building was established in 2021 to create small and versatile habitable structures which have been utilised as garden studios, forest lodges, pool changing rooms, gymnasiums and for other applications with performance and demountability at their heart. Crucially, its Bio-SIP™ panel system is able to match the coveted PassivHaus standard and has now undergone further evolution to incorporate the ArmaPETR Eco50 insulation from Armacell. This is produced from 100% recycled material, including waste plastic and has recently been awarded Environmental Product Declaration (EPD) status with a Global Warming Potential of 23.2 Kg/CO<sub>2</sub> eq/m<sup>3</sup>. Qube Building's Director, Justin Murray explained: "The Bio-SIP™ system offers unique innovation in sustainable modular building systems with unmatched thermal stability."

01621 776252 [www.magply.co.uk](http://www.magply.co.uk)

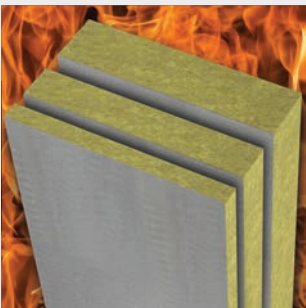
## Twin Module Security Office by Portakabin



Leading Offsite Manufacturer, Portakabin, recently became the first ever company to install Nullfire's latest fire stopping innovation, FZ100 Safe Zone. They required a robust fire stopping solution to ensure the safe occupation of staff members at a two module security office. Due to a longstanding relationship with Tremco CPG Offsite Solutions, they naturally approached the team to enquire about an appropriate solution for the installation. Tremco CPG Offsite Solutions has been in constant contact with Portakabin, who has supported this development extensively. As the Nullfire FZ100 Safe Zone has now been fully launched, it was identified as the perfect solution for this project. Nullfire FZ100 has been designed to meet the unique requirements of offsite construction. FZ100 is a fire barrier slab comprised of an innovative Graphite eXpansion Technology (GXT), making it possible to anticipate fire sealing and to integrate it directly when assembling the partition. This revolutionary solution has been engineered to provide best-in-class fire stopping capabilities to existing and future service penetrations.

01942 251400 [www.tremcocpg.eu/en-gb](http://www.tremcocpg.eu/en-gb)

## New Marmox Fireboard offers ideal EWI and IWI substrate



Building on the broad benefits of its widely specified Multiboard, insulation manufacturer Marmox introduced in January a highly versatile Fireboard into its range for both internal and external wall insulation (IWI/EWI) applications. The Marmox Stone Wool based product shares the unique Marmox honeycomb surface structure with its XPS forerunner, Multiboard, to create an A1 non-combustible certified render-backer which is weatherproof. It can further be used internally across walls or ceilings to take a plaster finish, while providing sound absorption properties, as well as thermal insulation. The 600 x 1,200 mm Fireboards are available in thicknesses from 20 mm, 50 mm and 100 mm and with the polymer modified mortar honeycomb coating applied to both faces. With a nominal density of 150 kg/m<sup>3</sup> the boards' core material offers a compressive strength of 90 tonnes/m<sup>2</sup>. The 20 mm Fireboard is ideally suited for external window and door reveals, ready for rendering. The Marketing Manager for Marmox, Grant Terry, commented: "The introduction of Fireboard into our range significantly enhances our offer to the construction industry."

[sales@marmox.co.uk](mailto:sales@marmox.co.uk) [www.marmox.co.uk](http://www.marmox.co.uk)



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