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Managing Editor

James Parker
jparker@netmagmedia.co.uk

Publisher

Anthony Parker
aparker@netmagmedia.co.uk

Editorial Co-ordinator

Shelley Collyer

Editorial Assistant

Laura Shadwell

Editorial Contributor

Jack Wooler

Studio Manager

Mikey Pooley

Production Assistants

Georgia Musson
Kim Musson

Account Managers

Sheehan Edmonds

Sales Executive

Steve Smith

PR Executives

Suzanne Easter
Kim Friend

Managing Director

Simon Reed

Advertising & Administration

t 01435 863500
info@netmagmedia.co.uk
www.architectsdatafile.co.uk

Press Releases

editorial@netmagmedia.co.uk

Subscription & Circulation enquiries

info@netmagmedia.co.uk

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



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FROM THE EDITOR



The UK Government took the knee-jerk decision to essentially ban all timber from new high-rise structures in the wake of Grenfell, notwithstanding the fact there was no timber in that building. Not normally one to follow Boris' lead, Sadiq Khan dismayed architects last September when he went further, to ban all combustible materials in residential buildings of any height in London.

Other countries, albeit not having faced something as devastating as Grenfell, have taken the opposite approach, putting their efforts firmly behind building taller than ever using timber. The Council on Tall Buildings and Urban Habitat, based in Chicago, traditionally the home of glass, steel and concrete, has sat up and taken notice, capturing all the current tall timber buildings in an interesting new document.

'The State of Tall Timber: A Global Audit' is a research paper (at ctbuh.org/mass-timber-data) which "represents the significant recent momentum of the mass-timber movement worldwide." It details 139 buildings of eight storeys or higher which are complete, proposed, or under construction. The body has also recently been involved in three major research studies, on 'Mass Timber Engagement,' 'The Future Potential of Steel-Timber Hybrid Buildings,' and the 'Future Timber City.'

Europe can hold its head high as the leading force, some countries benefitting from healthy timber stocks, and a long tradition of timber building. At the top of the tree is Mjøstårnet in Norway, an all-timber, 85 metre mixed use tower. Of the 139 projects, 60 are in Europe, and only 15 in North America. Australia is doing disproportionately well, with eight schemes, and Asia spectacularly badly, with only one tall timber project across the whole continent. The UK's seven schemes are all in London; three in Hoxton/Islington alone (Stadhaus, The Cube and Bridport House). The others are Dalston Works, and Trafalgar Place and Highpoint Terrace south of the river. The only project outside the centre is Press House in Wembley.

Speed of construction, predictable performance quality, and sustainability from minimised embodied carbon, and carbon sequestering. When we have such a drastic need for new housing, these key characteristics of good offsite timber construction means it's the sensible way forward. These well-established factors are not enough to move the construction industry to change its ways – something more like a national incentive programme is needed; instead, we are doing the opposite, in residential construction at least.

As our carbon targets loom, the fact the centre has turned away from timber is shocking. There has to be a rethink, including a grown-up conversation regarding how CLT timber structures actually perform in fires.

James Parker, Editor

**ON THE COVER...**

F51 in Folkestone is a unique project, offering a multi-level skate park, plus climbing and boxing facilities, in a striking new form

Cover image © Hufton + Crow

For the full report on this project, go to page 34

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MIXED USE

£3bn Queensway regeneration proposes ‘new gateway to Hyde Park’

A transformation is set to take place in Queensway, west London, as a £3bn “vision for the future of the street” has been unveiled, including Parisian-style street pavilions, significant greening, public realm improvements, a new retail strategy, a series of “landmark developments,” and a new public entrance to Hyde Park.

The scheme is in for planning and is expected to be delivered by the Queensway Joint Steering Committee in close consultation with Westminster City Council and TfL, creating a “new district for living, shopping, dining and leisure.” Located between Hyde Park and Notting Hill, what the project team called a “major overhaul” will “deliver a blueprint for the future of London’s high streets.”

The scheme is bookmarked by property developments including The Whiteley – “the grand reimagining” of London’s first

department store, Whiteleys – and Park Modern – a “development of world-class residences overlooking Hyde Park.”

The new pavilions will transform underutilised side streets from crammed parking spots to new retail and dining experiences. The elegant glass pods, featuring copper frames and planting on top, will feature a “destination cafe” with seating able to expand onto new courtyard areas, “bringing al fresco living to the west London location.”

The redevelopment plans are claimed to mark the “biggest investment Queensway has ever seen,” said the project team. Of the eight retail parades located on Queensway, five will be comprehensively regenerated, “reinvigorating the retail tone of the street.”

Of the 550 apartments currently in the Bayswater ‘pipeline,’ 70% are focused on

Queensway and will “reposition the area as a prime address in line with the local neighbourhoods adjoining Hyde Park.”

The regeneration project will deliver a “bold mix of reuse, restoration, new building additions, and ‘regreening’.” As well as new buildings, the plans will also see the restoration of heritage buildings, support for existing businesses, the refurbishment of shop frontages, improved lighting, greening of rooftops, and improvements to both Queensway and Bayswater Underground stations.

Currently submitted for planning with Westminster Council, the project is scheduled to fully complete in 2026, and will deliver seven new buildings, over 350 new homes, 10,000 ft² of new office space, 530 metres of refurbished shop fronts and 500 metres of new retail opportunities.



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HOUSING

Gove gives new planning role to communities and casts doubt on 300,000 homes target

Housing Minister Michael Gove has confirmed that the Government would give local communities powers to support or veto planning decisions on home extensions, to ensure schemes better suit their needs and see less resistance.

The recently published Levelling Up and Regeneration Bill included a proposal for 'street votes,' as well as community-led 'design codes'. Gove also gave an interview to the *Sunday Telegraph* however saying that the Government's 300,000 homes per year target "should not be used as a sole measure of success" and added that it was problematic that in the past "people have been driven just to create units of accommodation, rather than homes and communities."

A spokesman for Boris Johnson later attempted to squash any apparent contraction with the Government's "commitment" to the pledge, telling the BBC it was "central" to levelling up. As a result of Gove's comments however, doubt now hangs over how binding the manifesto pledge is to build 300,000 homes a year in England by the mid-2020s.



In suggesting that the 300,000 homes target was not the only measure, Gove added that the Government "would do everything they could to reach it," adding that the quality of homes was a critical factor.

Gove told the *Sunday Telegraph*: "Resistance comes down to the quality of what is built, and the fact that housebuilders can make significant profits which are not shared equally with the community." He added: "The planning system means that developers can override the clearly expressed view of local people."

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

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

EDUCATION

UK architecture hit by skills shortage as applications to creative courses drop 20% over last decade

Following higher education funding cuts of 50%, falling applicant numbers for creative courses at UK universities have caused a skills shortage. Experts have highlighted an increasing reliance on international students to plug the creative skills gap.

The UK "could be facing a creativity deficit," according to figures from UCAS, with 20% fewer applications for arts and design courses at UK universities being received in the last decade. In the last five years alone, there has been a 12% drop.

These courses "play a key role in providing talent to creative industries, including architecture," said high-resolution design textures specialists Ultra High Resolution. The greatest contributors to the decline are falling numbers of UK and EU applicants. Domestic applications are down 25% in 10 years, while EU applications have halved since Brexit.

By contrast, the amount of non-EU applicants for creative arts and design courses in the UK has more than doubled in the last 10 years. In the last five years,

it has risen by 44%. Around one in six applications for UK creative courses now come from non-UK citizens.

The data was collected from UCAS through a freedom of information request, by Ultra High Resolution. The findings show applicant numbers for all creative arts and design courses at UK universities.

Architecture "has been facing challenges with EU workers leaving gaps post-Brexit," said Ultra High Resolution. The RIBA's Future Trends survey reports that one in five practices are struggling to recruit.



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AWARD

BDP shortlisted for station and college in Scottish Design Awards



Glasgow Queen Street Station and the University of Strathclyde Learning and Teaching Building, both designed by BDP's Glasgow studio, have been shortlisted in two categories in this year's Scottish Design Awards.

The firm said the transformation of Scotland's third-busiest rail hub from a run-down collection of outdated extensions into a "soaring contemporary concourse that celebrates the station's Victorian heritage," has been nominated in the 'Public Building' category. The refurbishment of two existing

university buildings to form new teaching spaces, lecture theatre, student union and support services, has been shortlisted in the 'Retrofit' category.

Ed Dymock, architect associate, BDP, said: "Since 1878, James Carswell's original train shed has been hidden away at the heart of Queen Street, but the southern extension of the platforms gave us the opportunity to open up the views, work with volume and scale and allow the station to play a civic role within the city."

Martin Jarvie, architect associate, BDP, added: "We are delighted to be nominated for these awards. At Strathclyde University the decision to transform the existing buildings rather than a new-build project has substantial sustainable benefits. Our Sustainability team compared the embodied carbon of the adaptive re-use of the existing building structure to a notional new build equivalent and demonstrated that the project saved around 67% of CO₂e."

The winners of the Scottish Design Awards will be announced on 29 June.

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RESIDENTIAL

Rio Architects submit plans to develop Tower Hamlets ‘co-living’ tower

A high-rise residential building consisting of 795 co-living studios and private amenity space with associated support facilities will become part of a tall building cluster along Marsh Wall, on the Isle of Dogs and adjacent to Canary Wharf. The scheme “provides an opportunity for a thriving new community,” according to Rio Architects, who have designed the scheme.

Located on a site occupied by a three-storey office building, the location in South Quay in the London Borough of Tower Hamlets will offer an “innovative and contemporary living solution catering to the lifestyles of urban professionals.”

Co-living “enables a balanced and varied lifestyle that is easily accessible and affordable,” said the architects. benefits such as cost and time savings, including increased psychological well-being. The offering includes residents’ lounges, gyms and wellness centres, curated residents’ events, and co-working spaces to cater for the increasing trend of working from home.

Rio Architects’ design “promotes a real sense of community within this large-scale building” by creating “vertical urban villages that consist of communal areas for sub-communities of 57 people across three floors,” said the practice.

The concept of the three-floor KLD (Kitchen Living Dining) space in each



urban village invites a vertically-connected communal area allowing residents to connect during daily life.

Developer Olympian Homes and

operator Node Property Management UK will provide high-quality, affordable housing in a desirable location overlooking the Canary Wharf business district.

APPOINTMENTS

Perkins&Will announce promotions at London office amid growth and new project wins

The London studio of architects Perkins&Will have recently announced the promotions of 17 staff to roles ranging from associate to principal. The appointments consist of internal promotions and new ‘hires,’ including the internal promotions of Brandon Buck and Natalie Smith to principal.

The promotions come at a “significant

growth period” for the studio, which has recently completed several “high-profile” projects. This includes insurance group Beazley’s new headquarters at 22 Bishopsgate, the recently opened UCL Pearl research facility in Dagenham, and the start of civil works on two new state-of-the-art hospitals on the site of the Leeds General Infirmary.

“This newly formed group of leaders firmly cements the studio’s ongoing commitments towards net-zero and DE&I (diversity, engagement and inclusion),” said the architects. In 2019 and 2020, Perkins&Will made two “industry-leading” pledges to reach net zero for both its architecture and interiors projects by 2030.

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VIEW POINT



As the gaps on our high streets grow, it's time to future-proof them for the growing cohort of tech-enabled and eco-conscious customers by harnessing the potential of digital venues, says Alex Thomas from HKS Architects

There is no doubt we have left retail-only high streets behind. The pandemic and its multiple lockdowns put rocket boosters behind the existing digital boom, and by the end of 2021 a third of all shopping was done online in the UK. Even more telling – by March 2022, 90% of Debenhams stores were still empty almost a year after the former high-street stalwart closed its doors for the last time.

But the high street isn't dead. These areas can be vibrant, commercially viable places in 10 years' time, if we seize the opportunity to reconsider the make-up of businesses and services that will best sustain communities and drive value for owners. Alongside F&B, flexible workspace, healthcare and education, technological advancements mean that sport, art and culture can – and should – play an exciting role in this reimagining.

Investors and developers are already waking up to this opportunity and we have experienced a spike in demand for immersive projects – venues that can recreate anything from a community hall, to an art gallery or a stadium using cutting-edge technology. As well as drawing footfall to existing retail businesses and night economies, these digital venues increasingly align with the direction of both consumer and corporate priorities.

Amid all the talk of levelling up, immersive venues can democratise art and culture and take the biggest events and experiences to regional towns and cities. We've already seen this trend emerging in London, with immersive shows featuring artists from Van Gogh to Banksy, but that's just the beginning. New technology means you could watch football like you're at Wembley, attend an exhibition at the V&A or sit front row at London Fashion Week, all from a previously vacant unit on your



We have experienced a spike in demand for immersive projects – recreating anything from a community hall, to an art gallery or stadium

local high street – and with a significantly lower price tag. This potentially creates substantial benefits in terms of boosting engagement in arts and sports and opening them up to people with different backgrounds and experiences.

These new venues are also more sustainable. While some of the biggest music acts in the world (such as Coldplay) claim to be organising more eco-friendly tours, transporting fans to an event has the biggest impact on carbon and energy consumption. That is dramatically reduced if people can attend in their own neighbourhood or home town. Immersive venues – that can recreate the stage and

effects of the biggest stadiums in the world in a plug-and-play format – offer a much more sustainable way for people around the world to enjoy entertainment. Those strong eco-credentials mean they are a future-proofed choice in terms of corporate ESG objectives as well.

As well as repurposing existing building stock and driving footfall to traditional retail businesses, digital venues can act as hubs for future generations and put art, sport and culture back at the heart of communities.

Alex Thomas is design director of the London Venues team at HKS

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SITE LINES

A renewed focus on resilience

With demolishing structures being a carbon-intensive pursuit, Trevor Morriss, principal at architects SPPARC, explains why buildings must be constructed to stand the test of time as we race to reach carbon goals

The embodied carbon released when a building is demolished can total nearly one-third of its total emissions. However, the usefulness of a building is constantly changing as society evolves. While the best buildings remain essential for centuries, the more misguided in form and function are scarcely occupied once needs change and often remain empty until one day, they are replaced with what is perceived to be the 'next new thing.'

When buildings – whether it be residential or commercial – are no longer fit for purpose, the societal implications are stark. The cost of erasing mistakes and the scars that obsolescence leaves behind are felt in their environmental damage as well as in the wallet.

Construction, demolition, and excavation generate around 60% of total UK waste, while the embodied carbon released when bulldozing a building can total nearly one-third of a building's total emissions.

Often when a building ceases to be useful or its all too short specified design life has expired, it is because of a process known as 'creative destruction.' In simple terms, innovation leads to the replacement of old ways of production. For people, this generally means better products and services, but for buildings which are unadaptable, creative destruction comes with casualties and costs.

The urgent need to decarbonise means that vast swathes of real estate are at risk of becoming outmoded in the coming years. Data

from Rightmove shows that just under 1.7 million homes (across England and Wales) do not have the potential to improve higher than an Energy Performance Certificate (EPC) rating of between D and G. With the Government's current aspiration to have as many homes as possible reach a C rating by 2035, we need to dramatically shift the way we look at building so that new homes can easily incorporate the latest sustainable technology.

On the office and retail front, McKinsey estimates that as many as 40% of these building assets could be stranded by 2030, in the wake of incoming legislation. Technological change and the rise of e-commerce has already deeply compromised much-loved buildings and hollowed out high streets, resulting in neglected sites sitting in the middle of communities.

Take Debenhams, the historic British department store that occupied many of the most beautiful buildings on high streets across the country. The chain struggled to adapt to changing consumer tastes and online shopping. Nearly a year after Debenhams collapsed, almost 90% of the buildings they once occupied remain empty.

While these voids make clear that greater flexibility in the planning system is needed to repurpose existing buildings to suit other uses, the complexities of retrofitting or recycling existing structures is a reminder that the buildings we design today must stand the test of time. This is imperative.



OLYMPIC FEAT

SPPARC's 'reimagining' of the Victorian events venue Olympia in west London includes a new glazed roof garden/mezzanine level. The masterplan "optimises wide, open spaces to allow for reconfigurability as the buildings age, along with contemporary uses"

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SPPARC mixed use scheme at Borough Yards, south London

Under net-zero government targets that will come into law by 2050, Savills has estimated that a staggering 83% of the UK's current retail stock will need to be improved by that deadline to comply with environmental regulations.

A great example of this rejuvenation of an old building through a change of use includes the former Midland Bank headquarters at 27 Poultry, which now hosts The Ned, part of the Soho House group. This saw 29,450 m² of space transformed into an eating, drinking, sleeping (and even rooftop swimming) destination in the square mile.

From now on, architects and developers must think carefully about a building and place's current purpose and how it could adapt over time to meet the needs of future generations. This means being more resourceful, reactivating legacy assets across the built environment, but also working backwards to understand how design proposals can incorporate principles of disassembly.

Borough Yards is another example of reimagining a neglected space and creating a new destination for London. Through careful design and consideration, we took disused yet historically significant warehouses, viaducts and arches next to London's famous Borough Market, and opened up the site to create a co-locality of new offices, shopping and dining for the community. Within the constraints of a particularly dense area of the capital,

The complexities of retrofitting or recycling existing structures is a reminder that the buildings we design today must stand the test of time

we've contributed to a cultural quarter which has survived centuries of change, even under the shadow of the Shard.

Across town, our approach to the reimagining of Olympia – one of the last bastions of London's Great Exhibitions – has been to incorporate design principles and optimise wide, open spaces to allow for reconfigurability as the collection of buildings age along with complementary uses. The result is a lifestyle district of culture and innovation that successfully cohabits with the heritage setting.

As sculptors of urban environments, architects must play their part in limiting the carbon impact that we contribute to. This doesn't mean that our hands are tied. It simply means we have to be more creative in our approach to buildings old and new, residential or commercial, to ensure that what we design, is designed to last.

Trevor Morriss is principal at SPPARC



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ASK THE ARCHITECT

The new head of healthcare at HLM, Melanie Jacobsen Cox, answers *ADF's* questions on what makes her tick



Melanie Jacobsen Cox, head of healthcare at HLM

WHAT MADE YOU WANT TO BECOME AN ARCHITECT?

I have construction in my blood through my grandfather and dad, but my subject strengths at school – English, Art and Maths – lent themselves well to the industry in terms of communication, design and rational function. My dad was initially hesitant about me working in what he saw as a male dominated workplace, but I'm glad I persisted and thankfully, I've seldom found being the only female in the room or around the table an issue.

WHAT DO YOU LIKE ABOUT IT MOST NOW?

I'm really enjoying the new role at HLM. Having worked mainly in technical delivery of healthcare projects, I now feel that the door has blown wide open, and I'm enjoying having the mindspace to look at the bigger picture of healthcare architecture strategically as well as meeting and having conversations with people who really care about society and communities living their best, healthiest lives.

WHAT IS THE HARDEST PART OF WORKING IN HEALTHCARE?

The timescales and the funding structure often places projects under pressure from day one. It's so important to hit the ground running and bring agile healthcare design onto paper quickly. This is set against the context of obtaining the detailed brief from clinicians who are often re-evaluating the services that they provide, which can

evolve right up until the day of handing over a building. All of this requires time for digesting and thinking about the best and most flexible solution, and often time is of the essence.

One of the hardest, but most essential things, is to ask the right questions at the right time. Thankfully, HLM has developed the Thoughtful Toolkit which does exactly this and we are looking at how this dovetails to maximum effect with our stakeholder engagement process.

WHAT DO YOU MOST ENJOY ABOUT WORKING IN HEALTHCARE AND EDUCATION?

I love the crossover with other sectors. From looking at healthier towns and cities in our Asset and Masterplanning to the intricacies of specialist requirements in SEN schools and the Justice sector. I really enjoy having these wider ranging conversations and as global health becomes paramount, taking a simpler holistic view of health and how it is essential across the board.

HOW WOULD YOU DESCRIBE YOUR LEADERSHIP STYLE?

I'm a great believer in democratic leadership, however the varied roles that an architect encompasses, such as lead designer, means at times this style needs to be adapted to being more authoritative when we need to find direction and solutions to the challenges faced in projects. Regardless, I'm passionate about the dynamics of a team and fostering a



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Renal Unit, Edinburgh © David Barbour

culture of psychological safety with mutual trust and empathy. I'm really fortunate to have joined a team where we all have different strengths and expertise that complement and provide excellent stimulus and robust discussions.

HAVE THERE BEEN POSITIVES AS WELL AS NEGATIVES FROM THE PANDEMIC?

I think I realised personally that I have tremendous resource to dig deep and keep going, but the flip side to that is understanding that it's not sustainable in the long term, and that it is so important to take time to reset and re-establish healthy boundaries. Especially in the working from home scenario, where it can be hard to differentiate between working life and home life.

HAS IT TAUGHT YOU ANYTHING NEW?

That online meetings are wonderful, but also at times no substitute for a face to face meeting.

WHAT IS YOUR PROUDEST PROFESSIONAL ACHIEVEMENT?

I would like to think that I've demonstrated to my daughter that it is possible to combine motherhood and a fulfilling career. I hope that from being a working mum she can make an informed decision about what sort of career she wants after education and not feel that wanting to be a mother compromises this in any way. I also feel very honoured to have been allowed to work on projects where I know the end

result has had a direct positive impact on people's lives. If there is one thing that I love about healthcare architecture, it is its ability to transform lives for the better.

WHAT SINGLE PIECE OF TECHNOLOGY WOULD MAKE AN ARCHITECT'S JOB EASIER?

I'm sure every healthcare architect would agree that a piece of software that instantly transforms room data sheets intelligently into C-sheets (room elevations) at the click of a button would be a bonus. There are good elements of this software that we are using, but I've made it a goal to look at how we can consistently implement this in our work with greater effectiveness.

DO YOU BELIEVE YOU NEED TO BE A 'CRITICAL FRIEND' TO CLIENTS, WHEN IT COMES TO BRIEFS?

As healthcare architects we need to balance the fine line of meeting requirements with best practice and standardisation, along with the idiosyncrasies of individual clinical operational policies, which do vary. Regardless, being collaborative and proactive is by far the most positive and engaging way of working, and ultimately it is about identifying the vision of a programme of work and delivering this as a shared goal.

WHAT HAS BIM BROUGHT TO YOUR DESIGN WORK?

I started working with Autodesk Revit from 2010 and was instrumental in

making this mainstream in a previous practice. Personally, I've loved designing in 3D, but I'm glad that there are others who want to specialise in the BIM management aspect. With repeatable rooms and standardisation elements in healthcare, using BIM is a natural fit and there are definitely efficiencies in using it. I still maintain, however, that it is only as good as the input and my advice to anyone using it for this first time is always that it doesn't design for us. We still need to do that!

DO YOU AGREE WITH THE PHRASE 'DON'T LET THE PERFECT BE THE ENEMY OF THE GOOD?'

Yes. Having struggled with perfectionism in the past, my aim is now excellence rather than perfection. I often think that architects are trying to be perfect in a very imperfect world.

DO YOU HAVE A SHORT-TERM GOAL?

A sun-soaked holiday over the summer doing very little for a week or so would be ideal.

WHAT DO YOU SEE AS THE BIGGEST CHALLENGE FOR ARCHITECTS IN THE NEAR FUTURE?

Time. Everything is so instantaneous nowadays and there is so much more to be knowledgeable about it can feel overwhelming. I'm often told to slow down, and it's good advice that I'm going to follow. We all need time to think. ■

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VLTAVA PHILHARMONIC HALL, PRAGUE BJARKE INGELS GROUP

Bjarke Ingels Group (BIG) has been announced as the winner of the international architectural competition for the design of the Vltava Philharmonic Hall, Prague, against a strong list of 18 other contenders. An international jury decided to appoint BIG to design the long-planned project, with the practice describing the scheme's "ambition to attract not only classical music fans, but also the general public." The winning design comprises three halls, and will also house the music department and the creative hub of the Municipal Library of Prague, along with a cafe/rooftop restaurant. The roof will be "a continuation of the public space of the square," said BIG, allowing visitors to climb to the top without having to enter the building, and enjoy a "unique panoramic view of the whole of Prague."

The studio proposes to source wood from the Šumava National Park in the south of the Czech Republic for the construction, including wooden ceilings which will "permeate from the exterior to the interior, symbolically highlighting the theme of the Vltava Philharmonic Hall's openness to its surroundings," said BIG. With glass being a key element typical of Czech architecture, the material will "dominate the facade of the building."

The Vltava Philharmonic will be the home of both the Prague Symphony Orchestra FOK and the Czech Philharmonic, and will help "kick-start" the transformation of one of Prague's most important brownfield sites, said the architects. The city plans that the new Bubny-Zátory district will eventually become home to 25,000 residents in 11,000 apartments. Construction work is expected to start in 2027, with the new concert hall expected to complete in 2032.



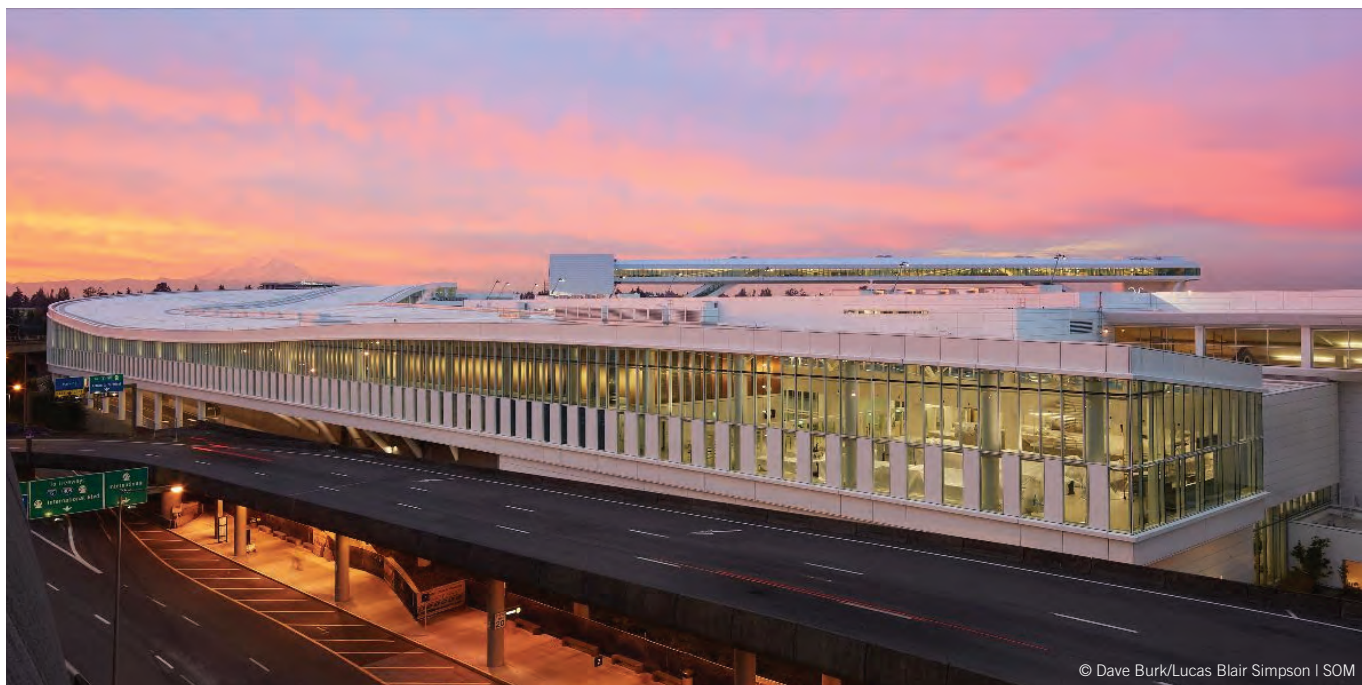
KARRINYUP SHOPPING CENTRE, PERTH, TAYLOR ROBINSON CHANEY BRODERICK & HAMES SHARLEY

The Karrinyup Shopping Centre in Perth, Australia, has been expanded to double the size of its retail offering to 109,000 m². The expansion was designed by co-design firms Taylor Robinson Chaney Broderick and Hames Sharley (TRHS), also working initially with HOK. With client, AMP, they identified three principles "critical" to the project's success: authenticity, connectivity, and diversity, and sought to "reimagine the big box typology".

The shopping centre was to be the heart of the Karrinyup community, embodying the "coastal cool" vibe, and an investigation was undertaken of the area's characteristics, with the design to incorporate "organic forms, natural textures and coastal colours", inspired by the local landscape and flora, beach paths, and boat hulls.

The facades of the centre were reimaged to better connect with the locality, now consisting of "large, bold, sweeping facades" to highlight pedestrian access at the centre's east, west, and south entrances. Internally, connection to the environment was created through the use of large volumes, plenty of glazing, and sinuous skylights, to "summon the trademark airiness and abundant natural light that typifies Perth beaches". The surrounding streets are visible throughout the centre and the upper levels offer views towards the coast, central Perth and Lake Gwelup.

The internal programme of the centre was designed to facilitate both regular and occasional shoppers. A number of precincts were created, each with its own identity yet all linked by "common design threads" to present a "unified and cohesive narrative". The finished project provides not only a shopping centre but also a community hub that "sets new global benchmarks for retail experiences".



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INTERNATIONAL ARRIVALS FACILITY, SEATTLE-TACOMA INTERNATIONAL AIRPORT SKIDMORE, OWINGS & MERRILL

The new, expanded International Arrivals Facility (IAF) at Seattle-Tacoma International Airport (SEA) is now open. Skidmore, Owings & Merrill (SOM) led the design team, replacing a 50-year-old arrivals facility with a “dynamic structure” nearly five times bigger. The IAF comprises an aerial walkway – “the longest of its kind in the world” – a Grand Hall, and a secure corridor to increase the number of international-capable gates. Arriving international passengers are “immersed in the landscape of the Pacific Northwest as they cross the aerial walkway with 360° views of Mount Rainier, and the Olympic and Cascade mountain ranges,” said the architects. The walkway spans 780 feet across an active taxilane, creating a rare moment for passengers to watch planes pass underneath. The walkway connects to IAF’s Grand Hall – an expansive, light-filled space with floor to ceiling windows. The building’s “sweeping roofline tilts and arcs reflecting the motion of a landing airplane.” The interior design references elements of the Pacific Northwest – its plant life, terrain, and topography. The Grand Hall features a terrazzo floor with local stones, and entry portals lined with Douglas fir. Passengers depart the Passport Control area, alongside a small forest of evergreen trees, which culminates at ground level in a landscaped creek with native ferns and plantings nested between granite slabs. A new secure international corridor along the face of the existing A Concourse allows eight international wide-body aircraft gates direct access to the IAF, with dual use for domestic flights. Working with the Port of Seattle, SOM, and Clark Construction Group led the design-build team for the 450,000 ft² project which included: The Miller Hull Partnership, EHDD (Formerly Patano Studio), KPFF Consulting Engineers, Schlaich Bergermann Partner, Integrated Design Engineers (IDE), PAE Engineering, Magnusson Klemencic Associates, Stantec, Arup and Murase.



© Iwan Baan

GOOGLE BAY VIEW CAMPUS, SILICON VALLEY, CALIFORNIA BJARKE INGELS GROUP (BIG) AND HEATHERWICK STUDIO

Google has announced the opening of its new Bay View campus in Silicon Valley. The Bay View campus was designed by architects Bjarke Ingels Group (BIG) and Heatherwick Studio, as well as Google’s design and engineering teams, and spans 42 acres adjacent to NASA’s Ames Research Centre in Silicon Valley. It totals 1.1 million ft², with 20 acres of open space, two office buildings, a 1,000-person event centre, and 240 short-term employee accommodation units. The campus incorporates biophilic design principles, including greenery, natural daylight and views outside from every desk to improve the health and wellbeing of those inside the building. Clerestory windows modulate direct light onto desks with automated window shades that open and close over the course of the day. The ventilation system uses 100% outside air, meaning air flows one way, so there is no recycled air. Sustainability is also core to the campus – the site is expected to achieve a LEED-NC v4 Platinum certification and become the largest facility ever to attain the International Living Future Institute (ILFI) LBC Water Petal Certification.



ASK THE MANUFACTURER

The building blocks of success

To celebrate the family firm's 75th anniversary, *ADF* contributor Jack Wooler talks to Giles de Lotbiniere, Chairman of block manufacturer Lignacite, about the company's foundation, and what makes it special

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

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

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

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

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

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

"Lignacite has always stood for a high-quality product backed up by very good customer service, and as a company, we have always had a genuine desire to supply the best product that we can to

our customers – and that's a standard we continue to set for ourselves each and every day."

The magic ingredient

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

Continuing the story from here, Giles says that, "when one day, the team ran out of this admixture, my grandfather said 'never mind, let's continue making the blocks anyway.'"

"To their surprise," he continues, "they turned out equally well – in fact, even a little better – without the admixture."

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

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

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

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

"There are very few blocks that you can take a handsaw to and cut in half," he continues, "if you are putting in electric

cables or anything like that into a wall, being able to cut or chase into a block is a very valuable feature."

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

The expense is more than worth it though, he argues: "A normal, dense, aggregate concrete block will heat up to a certain degree and then shatter. Whereas, if you have wood in a block, it won't burn because it's locked up in the matrix of the block and the oxygen can't get to it. Instead, it calcifies and goes black and hard. As a result, Lignacite blocks have a very good fire rating."

Besides this, in more recent times, he tells me that blocks containing wood have also been recognised for having the attribute of locking up CO₂: "Because trees absorb CO₂ for photosynthesis, which is an essential process for all plant growth, it means that putting wood into blocks locks up that CO₂ permanently."

The proof is in the projects

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

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

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

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

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

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

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

Ecological innovation

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

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

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

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



"We've had some really fun projects like The Wedding Chapel in Blackpool, which was designed by dRMM and constructed from blocks containing blue luminescent glass in a matrix of limestone"

Giles de Lotbiniere, Chairman of Lignacite

additional heat or energy requirements.

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

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

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

An "innovative and amusing" example he gives me of the latter was

during the construction of the Athletes' Accommodation in the Olympic Village, with the client requesting green glass in a particular block.

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

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

Roots and branches

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

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

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

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

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

www.lignacite.co.uk

EMBODIED ENERGY COMPARISONS

- Concrete: 1.4 joules per tonne
- Bricks: 2 joules per tonne
- Glass: 20 joules per tonne
- Steel: 0 joules per tonne
- Stainless Steel: 90 joules per tonne
- Aluminium: 270 joules per tonne

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ARCHITECTS AND SPECIFIERS EVENT AT QPSL



Quantum Profile Systems Ltd is hosting a unique FREE event for Architects and Specifiers in partnership with the Manchester Society of Architects on Thursday 14th July 2022, from 3pm until 10.30pm. It will give those in attendance the chance to learn about the very latest building product developments in the construction industry, and enjoy an evening of networking. Free transport will also be available to and from Manchester's Northern Quarter.

There will be an afternoon of focused RIBA CPDs, an RIBA accredited Lean factory tour, and exhibitions from leading building product manufacturers. There will also be a free bar and hog roast (plus veggie option) in the evening.

Several leading building product manufacturers will be offering 20-minute-long, focused CPDs which will earn CPD points for our guests. Attendees will be offered an RIBA assessed tour of QPSL's factory, which will allow them to observe its Lean manufacturing techniques in

practice. There will also be an exhibition area where you can speak directly to a range of manufacturers.

In the evening there will be a selection of beers and ciders on draft at a free bar. A range of spirits will also be available, along with red and white wine. Guests will be served a buffet, the centrepiece of which will be a whole hog roast with all the trimmings. There will also be vegan and vegetarian options available.

Entertainment will be provided by live performances from various musical artists including Pressure Drop, a Manchester-based Reggae and Ska street band. For those who would like to take advantage of the refreshments, free transport is available on the day. There will be a coach to pick people up from the Northern Quarter in Manchester at 2.15pm and to drop people back there at 10.30pm.

tinyurl.com/qpsl2022
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A. PROCTOR GROUP NEW RIBA APPROVED CPD SEMINAR



The A. Proctor Group, synonymous with technically advanced thermal, acoustic and membrane solutions for the construction industry, has introduced a RIBA Approved CPD seminar titled '*Building Refurbishment, Systems for Retrofit & Conservation.*' Aimed at architects, specifiers and contractors, attendees will receive technical advice from A. Proctor Group technical experts, providing the latest guidance on British and European Standards, compliance with Building Regulations, and learning on how to maximise performance and avoid potential failures.

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NEW CPD FROM ALUK PROVIDES TECHNICAL GUIDE



AluK has launched a RIBA approved CPD entitled '*Aluminium Curtain Wall Design: A Technical Guide*', which is available as either an in person or virtual event. The CPD covers both aluminium curtain walling and associated glazing products and covers the specification essentials as laid out in the RIBA guidance, with particular focus on the all-important regulatory and standards frameworks. It outlines the essential factors to consider in specification and includes a useful system design decision tree which outlines the pros and cons of different curtain walling system types.

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www.alukgb.com/learning/home

INSULATED SUSPENDED GROUND FLOORS – RIBA APPROVED CPD



Cellecta has launched a new RIBA Approved CPD, '*Insulated suspended ground floors*'. By the end of the CPD you will have a greater understanding of Suspended floor issues; Benefits of EPS suspended floors over beam and block/timber; Reduction in CO₂ and environmental impact; Health and safety. Cellecta is excited to launch its latest innovative, environmentally friendly product, insuBEAM® – the low CO₂, high thermal performance beam and insulation block system. insuBEAM® is lighter and quicker to install than traditional beam and concrete block flooring.

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CERTIFIED BUILDING REGULATIONS CPD FOR NEW BUILD HOMES



Vent-Axia has launched a certified CPD '*Domestic Legislation for Ventilation*' on the revised Building Regulations, following the company's successful webinars on the topic. Certified by The CPD Certification Service, the CPD is aimed at housebuilders, M&E contractors, consultants and architects, and will inform delegates of the recent changes to the legislation, focusing on Approved Document F (for Ventilation) and Approved Document L (for Conservation of Fuel and Power) and will explain how they will affect ventilation in New Build homes.

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NEW CPD SERIES AIMED AT ARCHITECTS AND SPECIFIERS



Brick manufacturer Vandersanden is launching a newly enhanced series of six engaging and informative CPD webinars. The sessions are part of Vandersanden's portfolio of learning and development tools, aimed at architects and specifiers, to help build their knowledge base and keep them updated on new techniques and innovations in brick manufacturing. Vandersanden's new CPD webinar series launched on 4th May. The sessions are designed to be concise yet packed with useful information to inspire architects to learn more about the creative design potential of bricks. www.vandersanden.com/en-uk/cpd-continuing-professional-development

SPECIFYING HARDWOOD TIMBER DOORSETS



Urban Front are now presenting the 'Specifying Hardwood Timber External Doorsets' CPD workshops online and can accommodate up to 20 participants for each webinar date. The objective is to enthuse and inform architects about specifying hardwood internal and external doors. Seminars last an hour and count for double points for architects and architectural assistants. The CPD shows photographs of specifications and settings and includes demonstrations. Attendees will also be able to ask questions throughout. 01494 778 787 www.urbanfront.com/riba-cpdoffering/book-cpd

CPD ON THE NEW 2022 BRITISH STANDARD FOR WATERPROOFING



Newton Waterproofing, one of the UK's leading designers and suppliers of guaranteed waterproofing systems, has already created a new, RIBA approved, double points, core curriculum CPD on 'Waterproofing Design Strategies to the New British Standard 8102:2022'. As well as an explanation of the updates to the new 2022 version of the British Standard, the presentation provides an overview of the modern methods available for protecting below ground structures from water. training@newtonwaterproofing.co.uk www.newtonwaterproofing.co.uk

NEW WASTEWATER TREATMENT CPD LAUNCHED BY GRAF UK



A CPD that explains the issues around wastewater treatment and advises on the options available for specifiers has been launched by Graf UK. The 50-minute presentation delivers a multitude of 'Wastewater wisdom', ranging from the fundamentals (what is wastewater treatment and why is it required) to the latest regulations and issues, via a user-friendly mix of "live" presentation and videos. Click here to sign up to watch the full CPD or go to www.grafuk.co.uk bit.ly/GRAFCPDWebinar

Resapol announces new website launch



Resapol, the UK's trusted independent supplier of specialist construction products is pleased to announce the launch of their new website. The website is the culmination of months of work developing a new, modern site that fully meets the requirements of their broad customer base. The site allows users to view Resapol's extensive product range in a more fluid and user-friendly environment, whilst also offering enhanced content and exciting new features. The website is fully optimised meaning that whether you are on the move or sat at a desk the content is accessible. One of the many enhanced features is the new, improved product pages which allow easier access to product information, datasheets, reviews, videos and product guides. Other exciting additions to the site include the dedicated Resapol Foundation page offering more information on how their charitable arm works. Other new pages include news, download, company and merchant support, with even more planned to be added over the coming months. The new Resapol website truly provides everything you need to know about Resapol and their extensive range of products.

0800 083 1942 www.resapol.com

Substantial investment in production facilities



Keller Kitchens is part of the DKG Group; a Netherlands-based company which boasts one of the largest kitchen factories in Europe with a surface area of 65,000 m². In order to provide customers with a high-quality product, only first-class materials and the latest technologies are used. Recently several

major investments have been made so that the group optimises today's technology, raises productivity, and remains at the forefront of the industry in terms of sustainability initiatives. Keller Kitchens is proud to be a Carbon Neutral kitchen manufacturer and has been since 2017.

www.kellerkitchens.com

Vandersanden publishes well-being report



Brick manufacturer Vandersanden has launched its Collective Well-being 2021 report. In this report, Vandersanden provides a transparent annual overview of its efforts and results in terms of sustainability across four areas: the environment, the (construction) industry, its own employees and the community. The past year's performance shows once again that Vandersanden is on the right track towards CO₂ neutrality by 2050. The full sustainability report and more information about Collective Well-being at Vandersanden can be found on their website.

01954 268 075 www.vandersanden.com/en-uk/collective-well-being

Bespoke casing solutions from Pendock – Something out of the ordinary

Decorative architectural casing and enclosure solutions have been Pendock's area of specialism for more than three decades, combining the key attributes of aesthetics and practicality to effectively conceal structural elements and building services.

In 1987, when the company was formed, column casings were typically specified for their practical characteristics and were used primarily to give a uniform covering for structural steelwork and concrete columns. Since then, changing architectural demands have evolved and developed to a point where the understanding, acceptance and application of column casings and building linings are now an integral aspect of building design.

This design confidence and familiarity with casing solutions has also created opportunities for architectural and specification teams to push the boundaries further and engage with Pendock to develop unique bespoke solutions beyond the more widely accepted and used 'standard' products within the range.

Pendock's technical project manager, Gavin Byram, explained: "We have a wide range of standard products and these still form the largest percentage of our business. This is particularly true of column casings, where most applications can be met by using metal, GRP, GRG or pre-formed plywood casings from our Radius range.



Stacked metal column casings – 11 metres high



Atrium beam casings from the Pendock Linea range

"However, we have been involved in many projects, where a solution must be engineered to solve the needs of a particular application, whether it involves extended heights, special shapes or non-standard dimensions. In these applications we typically work with architects to ensure the results are a precise match for the specification."

A comparatively early example of where bespoke casings were used to meet a complex interior form and create an interior feature was at the Birmingham Medical School. Two 8.8 metre high elliptical casings were manufactured using a specially formed ply substrate and pre-finished with a durable Formica laminate in polar white.

A further challenge to the design was to ensure the head of the column casing match the precise curvature of the timber ceiling, which was achieved to ensure a seamless join. Ellipses also featured on another bespoke project in Birmingham, at the National Exhibition Centre. To provide easy identification for the exhibition halls, Pendock manufactured a series of slender aerofoil section fins, which were finished with a red laminate and large metallic numbers.

It's been more than 15 years since the NEC project was completed, which is testament to the durability of the bespoke casings, but in the intervening period, Pendock has been involved in countless other bespoke projects. Bringing things right up to date, two of the company's latest projects have

involved column casings reaching more than 11 metres high in Didcot, Oxfordshire and a project in Coventry where pre-formed curved metal beam casings, from Pendock's Linea range, are being used to conceal the interior structural supports for a glazed atrium.



Elliptical column casings – NEC Birmingham

"Both of these projects required close liaison between the architects, contractors and ourselves," added Byram. "However, one of the primary differences between Radius column casings and Linea building linings is that Radius also includes a range of standard sizes, in addition to its bespoke capabilities, while Linea is entirely bespoke, and all products are manufactured to meet individual specifications."

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Grade II Grantley Hall wins Specification Award

The Grade II listed luxury hotel and spa Grantley Hall in Ripon, North Yorkshire, has scooped the prestigious Winner of Winners Award sponsored by GEZE UK at the 40th anniversary AI Specification Awards.

The award was presented by GEZE UK MD Kaz Spiewakowski to architects Bowman Riley and architectural ironmongers Em-B Solutions Ltd at a glittering ceremony at London's Leadenhall Building.

Grantley Hall opened in 2019 as a high-end hotel and spa following decades of neglect. The project required an extraordinary level of care to ensure the seamless integration of new and old ironmongery. The new products were designed to perform to the latest standards and operate with an access control system, while integrating with the antique brass and stainless steel furniture already in situ.

Said Kaz Spiewakowski, MD of GEZE UK: "As longstanding sponsors of this award we recognise the importance of architects and architectural ironmongers working together to produce beautiful



buildings that are also perfectly suited to those using them."

Explaining the Architectural Ironmongery Specification Awards GAI President Mario Del-Signore said: "Entries are judged on the effectiveness of the architectural ironmongery specification and how it enhances the security, accessibility and safety

of the building, whilst also adding to its aesthetics, functionality and lifespan."

More information about the awards and all the winners can be found on the news section of Guild of Architectural Ironmongers website www.gai.org.uk.

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#SKATEFOLKESTONE



**BUILDING
PROJECTS**

F51 FOLKESTONE

Riding high

A world-class multi-storey skate park has been constructed in Folkestone, Kent, a novel concrete form also designed to attract climbers and boxers, and which has quickly become a popular local landmark. Jack Wooler reports

F51 is a multi-storey, state-of-the-art sporting facility in Folkestone, Kent.

As well as three floors of skate park, the unique building offers a boxing facility, cafe, and competition-grade climbing wall that reaches up and around all of these spaces. It is claimed by its project team to have not only the world's first suspended concrete bowls for skateboarding, but also to be the first multi-storey skate park.

The project was originally intended to be a car park, but the project's main benefactor, philanthropist Sir Roger De Haan, worked with Kent and London-based architects Hollaway Studio to transform the scheme into what it is today. Floor by floor, the space allocated to 'skateable' areas gradually increased, until the project stakeholders collectively agreed that the entire building should be devoted to a variety of community facilities.

Hollaway Studio have an office in the neighbouring town of Hythe, and the scheme was built by contractors Jenner, who were founded in Folkestone. The building was a passion project for its multiple local contributors, and Roger De Haan, son of the late Sidney De Haan, founder of the Saga Group. Roger's goal was to give something back to the area, it having brought his family such success.

Now complete, F51 is a strong and slightly conical form, increasing in width as it ascends skywards, providing the town with a dramatic focal point that both maximises its usable space, and creates an unmistakable and unique landmark for the area.

As a result, the project has quickly become popular, not just among the locals

(with children in school in Folkestone having a subsidised entry fee of £1 a month), but for pro skaters and visitors alike who come from across the world to visit the facility. There has also been wide media attention from those inside and out the sport.

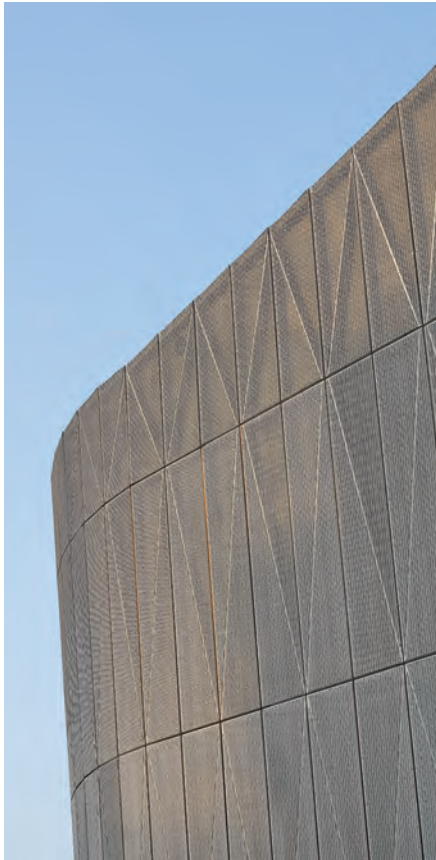
F51 is a testament to the passion of all its contributors, including a varied number of creators that provided artwork and expertise to create a space that closely meets the needs of its different users.

Approach

Walking to F51 from the seafront, De Haan's work to regenerate the area is everywhere. They range from the beachfront itself, on which a major residential redevelopment of the area – also by Jenner – is well underway, to the vibrantly coloured commercial spaces linking to the town centre. The latter – also owned by De Haan – are rented out at subsidised rates to encourage cultural endeavours in the area.

According to the locals, the area has changed to be almost unrecognisable over the last 10 years, in no small part due to Sir Roger's influence. And his regeneration projects have helped add a sense of safety, as well as of prosperity, to the area. To a new visitor, this is strongly evident as you pass through the welcoming and rejuvenated streets towards the town centre.

The feeling extends all the way to F51 itself. In contrast to most skate parks, which tend to be located on the outskirts of residential areas (and as a consequence, because they are not managed, can become territorial), it is located right in the centre of the town. That was the result of a clear



CRUSHED

The building is clad in crushed aluminium to combat the coastal climate, in a triangular pattern
All images © Hufton+Crow



decision by the project team to bring users into the heart of the community, instead of marginalising them.

Approaching the building on foot, with busy thoroughfares on either side of it, the striking parallelogram of F51 appears as a fairly massive form. The volume, relatively compact at its glazed ground level, is clad in crushed aluminium in a triangular pattern above, specified to weather the harsh coastal air. It is 6 metres wider by the time it reaches the top storey.

Even from outside, its function is clearly expressed, the concrete bowls of the first floor protruding out from the facade, and glazing providing glimpses inside. Also giving a signal to its use, the black painted ground floor is covered in graffiti from renowned artist Mr Doodle, who included various allusions to the building's functions – as well as a reference to Roger de Haan. My attention was also drawn to a drawing celebrating a particular 'rad dad' – a member of a parents skating class who visited the project as it was finishing.

Reception

Heading inside through glass doors, visitors are first presented with a reception area

and cafe, surrounded by a wall clad in skateboards of varying designs, which are available to buy.

As part of a commission to paint artwork around the skate parks themselves, almost every contributor whose art wasn't included on the building itself were given one or more boards to design – and they would receive a portion of the proceeds.

Looking up, you see the undisguised forms of the colossal concrete bowls, suspended directly above your head. Even from below, their scale is impressive – obvious not just in the depth to which they extend from the ceiling, but in the massive concrete columns holding them, and the further floors, up.

Next door to the reception are a range of supporting facilities such as storage, bathrooms and changing rooms (also located on upper levels), as well as stairs and elevators up, and doors that open to a space dedicated to boxing, which is a popular pastime in Folkestone.

Inside this space is a full size boxing ring and an adjacent training room; the connecting sliding doors in between opening up to create one large entertainment space. This means that it can offer not just boxing

practice, but other physical training sessions including yoga and pilates.

Suspended empty swimming pools

Climbing to the first floor – and away from the only heated portions of the building which are downstairs, for the comfort of the staff – double doors open up to the concrete skate park. Here, as on the remaining floors, it was decided the only ventilation needed was to regulate circulation, with users providing more than enough heat to keep warm. Because of this, all the interior specifications are graded for outdoor use, with the bowls essentially bringing almost all the servicing benefits of an outdoor space, but with the weatherproof practicalities of a roof.

As with all the skating floors, the space has been designed in conjunction with local skaters and experts to be of world class standard. And, according to its pro users so far, it has been a real success on this front. It also features designs from competition-winning local artists.

According to Maverick Skateparks, who designed the skating areas, the bowls were modelled after the empty swimming pools skating scene that began during a drought in California. Largely influenced by scenes from the LA skateboarders from the well-known Dogtown and Z-boys documentary, this floor is intended as a tribute to this piece of skating history, including some intricate tile detailing to its rim.

The most demanding floor to skate in terms of skill level, the bowls are very steep (I can vouch for this – they were tricky to climb in and out of on foot!). They have further protruding ‘lips’ and a faster, but less forgiving, surface than most skate parks.

In order to achieve the bowls’ complex construction, Maverick created an intricate 3D digital model to aid installation, and specialist firm Cordek were engaged to manufacture polystyrene moulds that acted as the falsework for the bowls, delivered to site in eight articulated lorries and pieced together. Cordek says the rebar concrete reinforcement process was “incredibly complex,” every bar being positioned individually prior to a spray concrete mix being applied. It reportedly took six weeks to design and schedule and a further four weeks to fix into place. While a traditional concrete slab would be poured continuously, the bowls were marked into sections completing one per day, being identified as the most economical approach without any compromise on the quality required.



Social climbing

From the same floor, users can also access the climbing wall and bouldering spaces. Claimed to be the tallest climbing venue in the south east, the walls of the main climbing wall reach up to 15 metres – carving a space up through all remaining floors, with glazing connecting the spaces visually.

Here, the main wall also includes two dedicated speed climbing sections, with auto ‘belays’ and speed timers to test speed and endurance – as seen in the Olympics – with coloured footpads throughout to cater for a range of physical abilities.

Nearby is also a further free-climbing bouldering space, with soft flooring and lower heights, meaning users don’t have to be strapped in. These multifaceted surfaces offer varying angles and over 230 m² of surface with a multitude of routes and features for climbers to tackle, including steep overhang roof sections, catering for beginners through to experts.

Patchwork of timber

Continuing the climb through the building (which can be made on foot or up the walls!), the next two skate parks are

Looking up, you see the undisguised forms of the colossal concrete bowls, suspended directly above your head. Even from below, their scale is impressive



Maverick created an intricate 3D digital model, and specialist firm Cordek manufactured polystyrene moulds

revealed on floors two and three, each bigger than the last as the building grows outwards. All the walls on these floors lean outwards, which assists skaters who will often come into contact with them. Further helping them, the windows are shaped to be smaller at the bottom, reducing the chance of them running into them, and are reinforced throughout with wire netting, to reduce the chance of cracking.

Created to get progressively easier to skate upon, the second and third floor skate parks – ('flow' and 'street' parks, respectively) – are built from timber. It is of course a more pliable surface, and was designed using a heavily CAD-oriented process led by Cambian Action Sports.

According to Cambian, both of these floors provided significant challenges. For one, most skate parks are of course in rectangular clear span industrial buildings or outdoor spaces – meaning here its designers had to consider not just the shape of the building, but the presence of the columns and the circulation of the building in use.

Overcoming these challenges however, the finished result is a combination of two further unique skate parks, one providing a simpler, pedestrian streetscape that provides varying routes and interplay between its users, and the other creating infinitely long

continuous smooth lines, where skilled riders can venture anywhere they wish.

On both of these floors – encompassing over 1,500 m² of skateable timber floorspace – the sustainably sourced plywood has been intricately connected in a patchwork to combine what the designers believe to be the ideal combination of speed, safety, durability, aesthetics, as well as a potential for upgrades as trends evolve.

One particularly impressive element of this patchwork is on the fluted columns of the second floor, in which Cambian took several thin sheets of plywood, bent them, and glued them in a press to form the curved shape.

Community

Now in frequent use, the project is demonstrably a huge success.

Opened in a post-Covid world, F51 quickly became more important than could have been conceived when the original ideas for a car park evolved into what became this state of the art sporting facility.

At such a pivotal time, when young people have desperately needed freedom and accessible space to safely expend their physical energy – and return to having some fun away from screens and pandemic-induced isolation – this facility has turned out to be of huge benefit.



Despite the innovation in its form, it is in its contribution to the community, and the community's returned passion for it, in which F51 truly shines.

Guy Hollaway, who is principal partner at Hollaway Studio, summarises this perfectly: "F51 is about investing in the next generation, to help regenerate Folkestone town centre – this building puts young people first, and for the first time, architecture, engineering and the skating world have come together to create this truly unique design solution."

He continues: "Since the opening, we have seen both the local community and enthusiastic skaters from further afield engaging with the building. We hope that this building will not only inspire and foster young minds but could also help to facilitate the next Olympic skater."

Similarly, Ella Brocklebank, head of communications and business development at the contractors on the scheme, Jenner, echoed Hollaway's sentiments, describing the wider impact of the project: "A sustainable future in its truest form is where the young are nurtured and given the opportunity to grow and fulfil their potential; to gain new skills and achieve great things."

She continues: "The aim is simple, a common sense approach to invest in this

generation, with the aim that it will go on to invest in the one that follows – generational regeneration."

"Undoubtedly," Ella concludes, "this is the life blood of F51."

Local legacy

F51 is a one-off, and is a project that every one of its contributors are extremely proud of, and building that's a product of its function which has instantly become a landmark.

Combined with this passion, it has quickly garnered real success through enabling both its future users, and the experts that put it together, to have true freedom in designing the building to an uncompromisingly high standard.

It is clear that this highly unusual project could not have been realised without the substantial donations of Sir Roger de Haan, which was something that everyone I met appeared truly grateful for. The finished result is an example of what a leisure project of this type, designed 'without constraint' can deliver.

If de Haan's aim was to create a legacy for himself by investing in the current generation, by giving the town's young people a reason to stay in Folkestone, he has absolutely achieved that with this groundbreaking scheme. ■



BOWLS

The concrete forms of the skateboarding bowls are clearly visible from the exterior

Mapei features at carbon neutral Braywick Leisure Centre

A full Mapei system forms part of the new Braywick Leisure Centre – a £33 million state-of-the-art facility designed by Plymouth-based BRL Architects. The new iconic Centre in Maidenhead replaces the Magnet Leisure Centre; it combines recreational, leisure and cultural facilities on a larger footprint, whilst using 70% less energy.

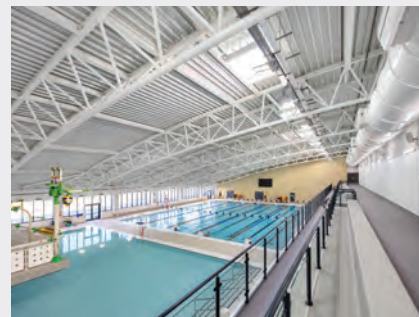
Situated under a striking sweeping roof, the centre features a 400 m² internal covered top lit 'street', from which all areas are accessed. Facilities include a 10-lane pool and trainer pool – each with spectator seating – a 200 station gymnasium, artisan cafe, dance studio and 2,000 m² sports hall. Mapei products were used from early design stage to completion, in the installation of floor and wall coverings, for concrete repairs, new construction, tanking, waterproofing and structural reinforcement.

The Mapei specification included Eporip solvent-free epoxy adhesive for construction

joints, bonding of screeds and localised concrete repair. Within pool areas, changing villages and corridors, products used included Mapei Topcem fast drying hydraulic binder, Planitop Fast 330 quick-setting, fibre-reinforced mortar, Mapelastic Smart highly flexible, cementitious waterproof membrane, Mapetex Sel non-woven, macro-holed polypropylene reinforcing fabric, Keraflex Maxi S1 deformable cementitious adhesive and Keraquick S1 quick-setting, deformable cementitious adhesive.

Mapei Ultracolor Plus anti-efflorescence, quick-setting and drying polymer-modified grout – featuring water-repellent DropEffect® and mould-resistant BioBlock® – was used for all tiled areas, along with Mapesil AC pure mould-resistant acetic silicone sealant for all movement joints. Other products specified included Mapemortar HB R3 high build, shrinkage compensated repair mortar.

Within the street area, Keraquick XL Fibrelite fibre reinforced cement based rapid



setting adhesive was used for the installation of tiles, along with Keraflex flexible cementitious adhesive.

For floor installation in the sports hall and sport stores, Mapei systems included Eco Prim T Plus solvent-free low odour all-purpose primer, Mapeproof One Coat single-coat epoxy surface damp proof membrane and Ultraplano Renovation Screed 3240 – a fibre reinforced self-levelling compound. Other products included Mapegrout SV quick-setting and hardening, compensated-shrinkage hi-flow mortar for spectator seating and balustrade bases and Mapefill GP non-shrink grout for spectator seating areas.

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Breathing new life into historic building

The Grade II listed India Buildings in the heart of Liverpool has undergone a major refurbishment, to transform the 100 years old, 12-storey mixed use structure into state-of-the-art office, residential and retail accommodation.

Being redeveloped for owner Legal & General by refurbishment specialist Overbury, the rejuvenation sees the eight floors of Category A office space delivering a BREEAM and WELL- compliant environment, through grilles and diffusers from air movement specialist Gilberts (Blackpool).

The 350,000 ft² of commercial space is served by four-pipe heating and cooling services connected to fan coil units behind bespoke bulkheads. Consulting engineers Crookes Walker Consulting designed the ventilation strategy, installed by Ameen Building Services Engineering.

Crookes Walker specified a combination of Gilberts' JSL and L Series linear bar grilles in the bulkheads, GECA eggcrate grilles and GTD concealed swirl diffusers across the field area of the perforated ceilings to handle both the supply and extract of fresh air throughout



the open plan commercial areas. Gilberts GX air valves ventilate the WCs.

Gilberts' technical team in-house executed Computation Fluid Dynamics (CFD) modelling of Crookes Walker's design to validate optimal incoming air temperatures to achieve comfort conditions, without over-heating: a comfortable average 22°C was preserved.

In the Category A office space – already let to HMRC – Gilberts' L Series of linear bar grilles provide heated air supply, with a typical 57% free ventilation area; blades can be set at a choice of 0°, 15° or 40° deflection. 'Fineline' bars enable blending into the

bulkheads throughout the office space. GECA egg crate grilles handle extract of the used air.

In the office and meeting room ceilings, Gilberts' patented GTD omni-directional concealed swirl diffusers feature a frameless chassis, which means they become an invisible, integral component of the ceiling grid; the radial vanes provide rapid entrainment and intermixing of high volumes of air through up to 50% free ventilation area ceiling tiles to avoid draughts or cold spots for the occupants below.

The ground floor area features Gilberts' JSL jumbo slot linear diffusers. The innovative air supply diffuser provides a shadow-gap appearance with high airflow (between 20-250l/s per metre), with an unbroken visual appearance unique in the marketplace. Runs up to 6m long sit alongside GECA egg crate grilles to provide extract through the suspended ceiling.

Gilberts is one of Britain's leading independent air movement specialists, and is unique in its ability to develop components.

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Photography © Dave Burk – SOM

BUILDING
DATAFILE

800 FULTON MARKET CHICAGO

Smart steps to wellness

SOM created the ‘smartest building in Chicago’ with a terraced form designed to bridge the gap between its historic low-rise and high-rise context. Its architect gives James Parker the lowdown on reaching high levels of workplace sustainability

SOM, working for client developers Thor Equities and QuadReal, have completed a 100 metre tall, stepped office building at the edge of one of Chicago’s fastest growing neighbourhoods, the former meat packing district known as Fulton Market.

The tower, which includes retail as well as office floors, was constructed by Lendlease and is LEED Platinum and WELL ‘V1’ Gold. This places it at the

highest end of the city’s new sustainable office buildings, and includes what the architects call “pandemic-responsive design features.” These range from seven landscaped terraces running the length of the building, providing indoor/outdoor workspace, to “assistive smart building systems” to optimise performance efficiency and user comfort.

With sustainability accreditation becoming much more in demand by major



HIGH-WAISTED

Due to the building's core being offset to maximise floor space, it lacked lateral support – the solution was external, high-waisted steel X-braced frames



commercial clients, tenants so far lured to this fashionable new district of the city include healthcare provider The Aspen Group, and farming equipment giant John Deere.

Background

Thor Equities, based in New York, had “recently had quite a bit of success with a recently completed renovation project of a historic building right down the street,” 905 West Fulton Market, says project architect on the new scheme, Kevin Rodenkirch. “They were able to attract a large snack manufacturer, Mondelez, to move their headquarters there,” adds the architect, who has experience in very competitive commercial schemes with tough energy targets, like Broadgate in the City of London, and 100 Mount Street in North Sydney, Australia.

The developer then turned its attention to the site of what is now 800 Fulton Market, buoyed by having sold the completed building for a price per square foot that was a record at the time in the city, and a construction boom since McDonalds moved their headquarters to Chicago in 2018.

Rodenkirch says that while SOM's architects were working from home during the pandemic, and city administration was

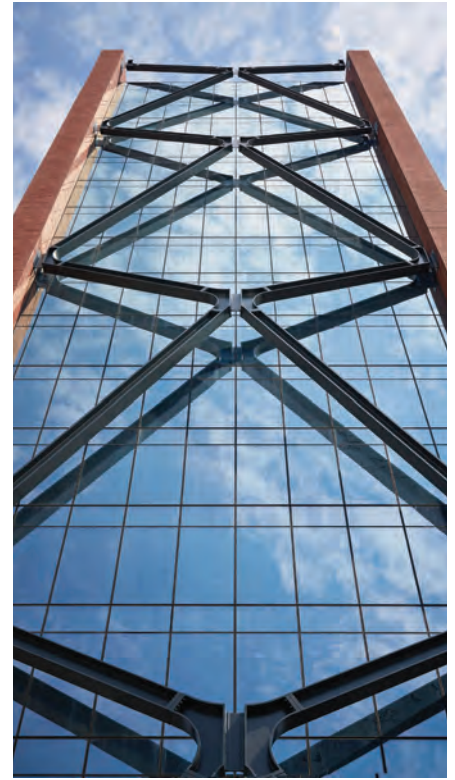
supporting nearby restaurants under threat by pedestrianising parts of Fulton Market, “construction was going crazy in the area.” SOM revisited some aspects of the new scheme, having finished their design just before the pandemic hit in 2020.

Covid has added further impetus to the previously muted attempts in commercial buildings to offer staff generous access to exterior spaces, on staff wellness grounds. Kevin says clients now see it as an essential differentiator to give their workers outside space and fresh air, and the new scheme is a great example: “Access to the exterior wasn't always a big thing in the office market, but now it is.”

Site

With the area having been a meat packing district, the historic vernacular is characterful three to five storey brick warehouses, many being former cold storage, as a result, many are being renovated. The result is a “preservation of a massive amount of the character, and a lot of schemes have been renovations with small additions.

In 2016, Chicago planners decided they wanted to expand the downtown area in a “very direct way,” creating three ‘expansion zones’; here in Fulton Market, as well as two to the south and the north west. This



allowed the floor area ratio (FAR) to “jump quite a bit,” says Rodenkirch.

The building faces Fulton Market, sitting at the edge of the historic district to the south. So the architects had to strike a balance between providing a lot of floor area (about half a million square feet), and three and four storey historic brick buildings. The question was, “how do you put this much area on a site when you are right next to this very lively, historic street?”

Design process

Despite SOM’s vast experience in the city, this was their first project with Thor. “When we met with them it became pretty clear they had very aspirational goals, both in performance but also design.” The architects were also attracted by the fact they had secured funding, had a “tight timeline,” and they “knew what they wanted.” He adds: “They said you have to give us something that’s going to be hyper-competitive,” (there were several competing schemes under construction in the area).

The architect asserts this was “kind of a best-case scenario, because if you were going to build here, you had to do something special, in terms of both the quality of the building and its performance.” He adds that it’s a strategic

focus of the practice to encourage clients to go further on sustainability: “We knew energy goals were going to be difficult, but that’s what we are looking to do – high performance, and net zero buildings.” The client was “very hands on,” insisting on weekly meetings, and there was the expected high level of community consultation, where the architects could explain the positive impact of the building’s design fully.

Led to higher LEED levels

There are a handful of LEED Platinum buildings in the midwest, says SOM’s Kevin, and WELL is yet to be fully established. The architects benchmarked adjacent buildings, one was WELL certified and LEED Gold, “and that became the minimum to exceed,” with the contract for 800 Fulton Market specifying LEED Gold and WELL Certification. However, as they worked through the design with the client, “it became clear that we needed to aggressively exceed the target, and go for LEED Platinum.”

The client realised this would help them lease space, as “it is what tenants want,” namely verifiable sustainability standards. The biggest driver behind the low carbon design, says Kevin, was operational energy, and it worked with Chicago-based M&E

“In 2017 BOMA – the US standard for measuring office buildings – confirmed that fitted out terraces could be considered rentable”

Kevin Rodenkirch



engineer dbHMS, who produced a series of early energy models. They proposed a 50-55% window-wall ratio (“quite low in offices,” says Kevin), and the architects used that as a guide; “We found it drove a lot of things.”

LEED “pushes you away from all glass,” says Rodenkirch, but adds “it’s kind of common sense. All glass buildings tend to be a lot more energy-intensive. Putting some opaque walls in and packing the insulation gives you the most bang for the buck.” He says that in a city with extreme temperature fluctuations like Chicago, a building can’t be dominated by cooling or heating: “You kind of have to do it all.”

The pragmatic, business-case driven approach to sustainability distinguished the project from some of its more optimistic rivals nearby, who haven’t hit much-trumpeted energy targets, says Rodenkirch. A lot of them went public with their carbon goals, such as Passivhaus and net zero, and very rarely does it happen.”

He says that targeting LEED Platinum also helped broaden the team’s minds: “We could think about the mechanical system in a non-typical way, even the daylighting.” That’s when the design of terraces emerged, “with the ability to set the building back, and gain views.”

Situated broadly at the threshold between

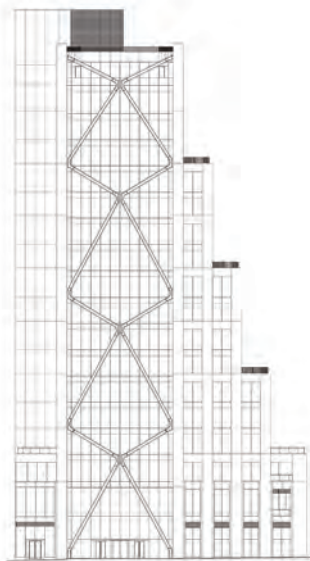
a collection of high-rises and much older low-rise brick buildings, the new addition has been designed to bridge the gap, echoing the rhythm and scale of both. The stepped terraces not only provide substantial external space, adding wellness to the building, but also present a softer facade to the nearby low-rises.

Form

The 19-storey tower draws on the area’s industrial heritage, with its brick, steel and glass facades, and striking exposed steel bracing to its east and west elevations. SOM consulting design partner Brian Lee commented: “We set out to design a building that would feel like it had always been part of Fulton Market’s historic industrial character.”

The building gradually steps back, and is ‘backloaded’ towards the north, facing a large glass building across the street (with two more planned). The architects wanted to “preserve the street presence to the south,” so a four storey podium “more or less aligns with the street,” which is mostly in the three to five storey range. The locally-built traditional aluminium curtain wall has opaque ‘shadow box’ sections to the top of the floor-to-floor glass, and infill insulation.

The terraces are around 1200 ft² and begin at level two, with the outdoor space



TERRACE CULTURE

The building contains several landscaped terraces for office workers, some with outstanding views of Chicago



split into restaurant and amenities, and sitting above a colonnade. The rest of the floors above are offices, with further terraces at levels three and four. There are two other terraces to the north, adjacent to the core.

Structure

In order to free up floor space, the architects decided to push the core to the north of the footprint, a “pretty innovative” move in Chicago, says Kevin. “This gave us the ability to insulate that facade pretty heavily, which is where you want to do it here.” Crucially, the core performed “better as a cantilever” than being the lateral anchor, and enabled a consistent 60 foot span all the way up with no columns, plus the terraces at lower levels.

With no real lateral system, SOM’s structural engineers designed external, high-waisted X-braced frames in steel, which represented a “continuation of the practice’s history of creating structurally expressive architecture.” They are far from mere formal expression, driven by no-nonsense practicality. The glass core of the building is suspended using this highly bespoke structural system, “enabling flexible, light-filled workspaces.”

In order to withstand the extremes of the Windy City’s harsh winters, and

hot summers, the frames are designed to contract in cooler weather and expand as the structure warms.

Assisting the sustainability goals, the architects decided not to cover the bracing in aluminium; also it wasn’t required on fireproofing grounds due to being outside the envelope, and simply painted it. However, this exposed steel would be more susceptible to Chicago’s “massive swings in temperature,” says Rodenkirch. Having done something similar at 100 Mount Street in North Sydney, the structural team came up with a thin central hinge plate which “literally bends around 8 inches in each direction,” says Rodenkirch. “You can see in the morning when it’s cold it’s sitting kind of flush, and when it gets warm you see it start to bend out.”

The solution is a highly functional, lean use of steel. Rodenkirch: “I think structural engineers are the original low embodied carbon engineers by design, because everything they have done has been how do you do this in the most efficient design with the least amount of material. Post-tensioned beams were used elsewhere to reduce the structure’s thickness.

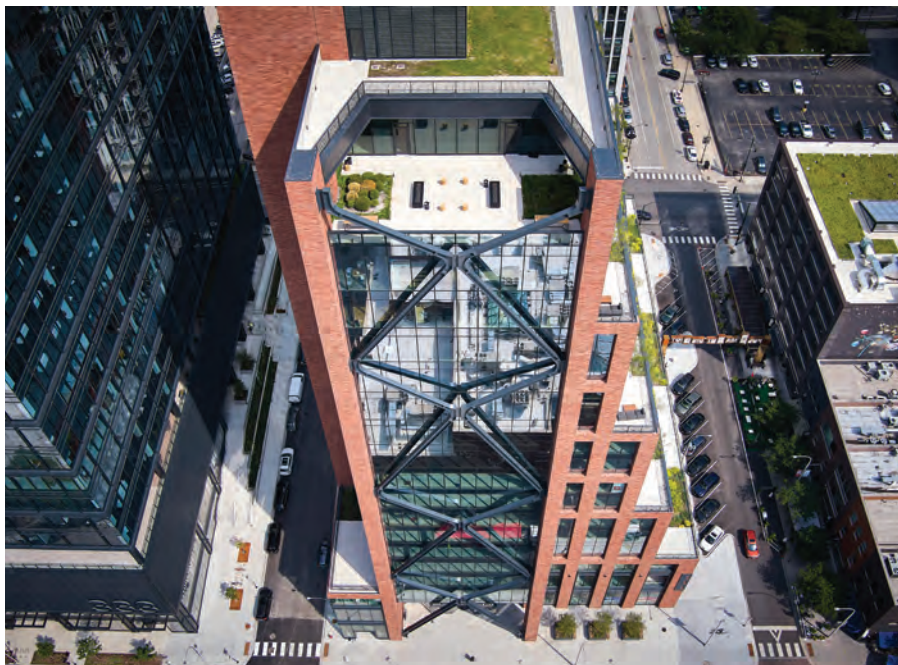
Programme

A triple height main lobby with a cantilevered staircase and mezzanine creates



“It became clear that we needed to aggressively exceed the target, and go for LEED Platinum”

Kevin Rodenkirch



SUNSET CLAUSE

At level 18, half of the floor is a games room and social lounge, leading onto a sunset terrace

“I think structural engineers are the original low embodied carbon engineers, by design”

Kevin Rodenkirch

“layered spaces of activity.” The internal palette of exposed concrete, wood and red brick echoes the exterior and “draws inspiration from the neighbourhood’s industrial character.” The lobby has flexible, movable seating and informal spaces for working and collaborating, and has been designed to “blend seamlessly into the busy streetscape.”

The range of amenities (a “big part of the building’s marketing power, in that neighbourhood”) did change during the project. “There are so many offices being built that it almost becomes a kind of amenities race, who can provide more and better.” As well as retail and “community spaces,” the architects added conferencing centres, areas for respite and lounging, and a fitness centre. On level 18, half the floor is a social lounge and game room, and opens up onto the sunset terrace so workers can enjoy a drink at the end of the day.

The terraces have a clear social value, in the months when they are usable, but are an expense that the client has to justify. Rodenkirch says that “tilting the needle” in 2017 was the fact that BOMA (the US standard for buildings measurement), acknowledged that fitted out terraces could be considered rentable. “In theory you could share some of that cost with the tenant,” adds Rodenkirch.

The architects didn’t want excessive amounts of landscape in the spaces, but “enough density so you could read it from the street.” The terraces alternate

from standard rectilinear forms in plan to tapering triangular ones, presenting even more variety to the south elevation.

A healthy, smart building

The architects re-evaluated the mechanical systems on a health and safety basis to ensure they were future-proofed post-pandemic. However, says Kevin, “We didn’t make any major changes as the building’s VRF and DOAS ventilation system, somewhat atypical in a Chicago office, uses 100% fresh air.” This ‘mechanical penthouse’ system, which includes some heat recovery, means there’s no recycling of air within the office space.

There are myriad touchless sensors in the building, “which I think we’ll see on every new building going forward,” says Kevin. There’s also a focus on user control, and apps enable access, and control air, light and other parameters, and can be used to reserve amenity spaces such as the fitness suite.

The building is also festooned with smart systems to monitor various conditions and operations and thereby optimise energy efficiency as well as environmental quality for users. The client engaged IT firm Buildings IOT to provide “cloud-based machine learning insights,” while tweaking and optimising fresh air circulation. The building also features electronic charging stations, and scooters for staff or tenants.

Through extensive analysis of the building’s life cycle and a painstaking design approach, the architects managed to reduce the overall structure’s embodied carbon by 65%, compared with an “average commercial office,” thereby meeting the 2030 carbon reduction target set by The American Institute of Architects (AIA).

Rodenkirch says that the seemingly daunting task of attaining both LEED and WELL was made easier by the fact that they overlap in lots of cases. “When you pursue LEED Platinum, you pretty much have WELL certification.” And he adds: “LEED has a lot of points about air quality, which is closely related to WELL.” He says that a lot of aspects are simply good design, but it’s a means of tracking the approaches through a project, and verifying them, while “providing a level of accountability.”

In most US cities, according to Kevin Rodenkirch, architects still need to “fight” to get to the higher levels of energy performance. This was the case in Chicago until recently; he says it’s only in the last two years that the city has “pushed for more aggressive energy codes.” He thinks that this building is a sign of more things to come. ■



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Sto render system specified for development



Sto's StoRender Flex render system was specified for use on a high-profile development of luxurious and sustainable homes built in Norfolk. "In order to minimise energy consumption, the Passivhaus Plus standard sets out very specific criteria for construction, insulation and ventilation systems,"

explains Sto's head of sales, Ashley Wainwright. "This meant that the materials specified had to satisfy extremely demanding performance standards, and the StoRender Flex render system was certainly able to achieve this." The StoRender Flex synthetic render system provides a highly flexible, rugged and crack-resistant exterior render finish.

0141 892 8000 www.sto.co.uk

FramePro® W1 chosen for Passivhaus Plus housing project in Cardiff



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

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Senior proves just the ticket for rail station



Senior Architectural Systems has played a key role in the transformation of Coventry's rail station to create a welcoming entrance to the city. The £82 million redevelopment of Coventry's rail station has seen the creation of a new entrance building and multi-storey car park, with Senior's slimline

SF52 aluminium curtain wall system helping to flood the concourse with natural light. Senior's robust SD automatic commercial sliding doors were also installed to provide secure, safe and accessible access to the thousands of passengers who use the station every day.

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The quality of the StoVentec Glass A system



The award of a new BBA certificate has underlined the quality and performance of the StoVentec Glass A system from Sto, and provides independent assessment that the system can be used on buildings above 18m in height, with a reaction to fire classification of A2-s1, d0. The StoVentec Glass A system can be used as a protective or decorative facade cladding over the external walls of new or existing buildings, or alternatively as an internal wall lining. The new certificate looks set to increase the popularity of the StoVentec Glass A system, which has already been used on a wide variety of projects.

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Bridge the thermal gap

Improving the thermal performance of building envelopes has become increasingly important, and designers need to be aware of how significantly thermal bridges can compromise the value of insulation, says Simon Hill of Schöck

A thermal bridge is a localised area of the building envelope with significantly higher thermal conductivity than surrounding areas, typically occurring where a material with high thermal conductivity penetrates the insulation layer. Cantilevered balconies are the most critical examples, resulting in higher heat transfer through the building assembly and colder surface temperatures on the warm side.

The main consequences will be higher energy consumption for heating, non-compliance with Regs, and condensation. The latter can lead not only to structural integrity problems, but potentially serious occurrence mould growth too.

The latest version of Part L (2013, with 2016 amendments) and associated guidance for residential construction Approved Document L1A (ADL1A) require thermal bridging be included in fabric heat loss calculations. The SAP calculation on heat loss includes the term HTB (heat loss due to thermal bridging).

However, despite this background of increasingly stringent standards for envelope thermal performance and losses, many designers are still not fully aware of how significantly some common thermal bridges compromise insulation.

Thermal performance & structural integrity

The most effective way to minimise thermal bridging at cantilever balcony detailing is to incorporate a load-bearing structural thermal break. This is a highly efficient manufactured balcony connector that minimises the flow of thermal energy between the interior and exterior of a building, providing both structural integrity, and ensuring that the balcony is thermally isolated.

The units have a very specific purpose, and to work effectively over a long period require certain physical characteristics – thermal insulation of an optimum thickness for the application, load-bearing



components, and a combination of reinforced and stainless steel. A wide variety of thermal break solutions are available for connectivity applications as diverse as concrete-to-concrete; concrete-to-steel; steel-to-steel; renovation projects – and even Passivhaus.

Condensation & mould growth

One consequence of thermal bridging is that surfaces can form condensation, resulting in both visual deterioration and structural damage. However, an even bigger concern is mould growth. To identify areas where there is a risk of condensation and therefore mould growth, a 'surface temperature factor' (fR_{si}) should be used. It allows surveys under any thermal conditions and compares the temperature drop across the building fabric with the total temperature drop between the inside and outside air.

Using the formula, the recommended (fR_{si}) value for offices and retail premises is equal to or greater than 0.5; and to ensure higher standards for occupants in residential buildings, equal to or greater



than 0.75. In more extreme conditions of high humidity, such as swimming pools, 0.9 would be anticipated.

Passivhaus: a special case

The use of highly energy-efficient building materials and the prevention of thermal bridges are essential to Passivhaus. Until relatively recently, cantilevered building components – particularly balconies – posed a challenge. As they penetrate the insulating outer shell, the performance demanded could not initially be met effectively by thermal break products. However, product innovation has led to high spec 'Passivhaus certified' structural thermal breaks being available for such applications.

Heavy balconies

These demand a fine balance of design and technical optimisation, due to the greater load transferred back to the structural thermal break connectors. The load capacity of those connectors will therefore need to be such that they can transfer the higher loads. The likelihood here is that there will be more steel reinforcement required, which in turn will increase heat loss. However, as long as the total heat losses remain within acceptable levels

and the minimum temperature factor requirement (fRsi) is exceeded at a specific junction, then it is usually acceptable.

Responsible design for the future

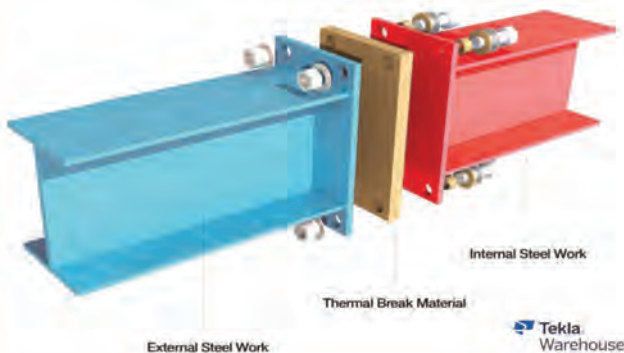
The UK has set in law a target to bring all its greenhouse gas emissions to net zero by 2050. As part of that journey, there is a commitment to introducing the Future Homes Standard in 2025. A key part of that involves uplifting the minimum standard of whole building energy performance and improving the minimum insulation standards.

The thermal performance of the building envelope is therefore becoming increasingly important – and critical to this process is the avoidance of thermal bridging. Mitigating this problem may result in a limited upfront cost, but this represents a small investment when weighed against the long-term savings gained through energy savings and future maintenance issues. It is therefore crucial to shape tomorrow's construction needs today, ensuring new builds will be future-proofed, and avoiding any need for retrofitting in years to come.

Simon Hill is product and marketing manager at Schöck



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Casements and Cocktails – the party house hosting George Barnsdale windows and doors



The Gables is a stunning new self build house set amongst the rolling countryside of Ware, Hertfordshire surrounded by beautifully landscaped gardens complete with a one hundred year old olive tree which comes in handy for the martinis the owners Jos and Jane mix in their own unique cocktail bar.

No expense has been spared for this “forever home” and when it came to the windows and doors, the couple knew they wanted timber, high performance, bespoke windows and doors that would last a lifetime

and look amazing alongside their handmade bricks and roof tiles. Following a visit to George Barnsdale’s Lincolnshire factory to see first hand how the windows would be made, the couple were so impressed, they placed an order for 21 casement windows, eight sets of French doors, three entrance doors and a sliding door for the master bedroom to allow access to their balcony. All are dual colour white inside and colour on the outside. Three of the windows in the kitchen have striking angles whilst across the hall, the elegant French doors in the cocktail bar are

ideal for opening out onto one of the garden terraces on a warm summer’s evening whilst sipping cocktails.

All products are Secured by Design, made from FSC certified timber and kind to the environment. The unique four stage paint technique means George Barnsdale windows and doors won’t require repainting for at least ten years, but usually considerably longer than that.

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Kingspan PowerPanel is a new generation of PV roof solution, combining a high-performance QuadCore insulated panel with an efficient monocrystalline photovoltaic panel in a single, factory-engineered product, creating roofs that truly work for the building. The importance

of reducing operational carbon emissions through fabric first principles and renewable energy generation have long been recognised as vital in transitioning the UK to a low carbon economy and creating Net-Zero Energy Buildings (NZE). Kingspan PowerPanel has been developed to provide both in a single solution suitable for all kinds of pitched roofs.

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Aero Pitch skylight is pitched roof perfect



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

any roof. As with all Sunsquare's skylights, Aero Pitch offers unrivalled thermal performance and is completely thermally broken, providing an effective barrier between internal and external temperatures.

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HR200 BP unit installed in 45 properties



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

have otherwise been lost from the property. It offers 100% filtration even in summer bypass mode, ensuring good Indoor Air Quality for the tenants all year round. The unit boasts high energy efficiency levels.

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W40 steel profiles an ideal match



The versatile W40 window profiles, specifically developed by the Steel Window Association (SWA) for its members, are a stylish and modern solution. While the classic W20 section continues to be preferred by conservationists and many property owners for early 20th century and older

properties, W40 exemplifies how steel fenestration systems have kept pace with modern tastes and technical demands, while retaining key attributes such as strength and excellent daylight transmission. Today's W40 profiles provide greater flexibility than their predecessors, being able to accommodate thicker double or even triple glazing units.

www.steel-window-association.co.uk

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Brett Martin brings light to door company's new production facility



The UK's leading supplier of rooflight systems **Brett Martin Daylight Systems (BMDS)** has provided its Energysaver factory-assembled GRP rooflights for a new purpose-built production facility in Bedfordshire, creating a light, energy efficient environment which enhances the workplace for employees. Designed by architects Woods Hardwick, the new Jewers Doors facility comprises 45,700 sq ft of factory and 12,000 sq ft of office space. Built by Parkway Construction, the new highly insulated building features energy efficient heating and cooling systems. Its composite panel roof incorporates a rooflight system from Brett Martin that maximises daylight and thermal performance, as well as offering the most cost-effective solution. The specification for the 80 mm-thick composite panel roof included 650 m² of Brett Martin GRP Trilite 3.0 Energysaver rooflights to provide an even spread of diffused daylight into the building. Offering quality and robustness, these triple-skin factory-assembled insulating rooflights (FAIRs) are designed to the same depth as the composite roofing system so that the flat liner panel sits flush with surrounding metal panels for excellent aesthetics and a neater, trim internal appearance.

daylight@brettmartin.com www.brettmartin.com

Mapei Concrete Repair System protects & complements beachfront Shoreline



A **Mapei Concrete Repair and Protection System** has been specified for repair works at Shoreline Restaurant & Bar in Devon. Over time, the building's concrete columns, beams and soffits began showing signs of deterioration, brought on by the aggressive seaside environment. South West Concrete developed a specification with Mapei in which all deteriorated and loose concrete was removed to form a sound, strong substrate with a rough surface. The exposed reinforcement rods were cleaned of all rust, then treated with two coats of one-component corrosion-inhibiting cement mortar, Mapefer 1K. When completely dry, thixotropic cementitious mortar Planitop Smooth & Repair R4 was prepared by combining with clean water, with the addition of set-retarding admixture Mapetard ES to extend the workability of the mortar. As Planitop Smooth & Repair R4 can be used between 3 mm and 40 mm, it helps to reduce dust and noise during preparation and the same product can be used to repair and profile the concrete. The repair works were completed as part of the first phase of works and Elastocolor Paint Anti-Carbonation Coating System was then applied later. Elastocolor Paint is offered in a wide range of colours.

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

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Garador says goodbye to plastic



Leading garage door manufacturer, **Garador**, is taking steps to make its products more environmentally friendly. From June 2022, Garador will no longer be supplying garage doors with plastic wrapping as standard. Garador's traditional wrapping system involved large areas of plastic around each garage door.

This plastic sheeting will now be removed from Garador's full range of up and over garage doors, greatly reducing the amount of plastic waste involved in each delivery. Managing Director of Garador, Neil Discombe, said: "This is a significant step towards our environmental goals and we are delighted we have now found a way to protect our garage doors during delivery without the need for these large areas of plastic. Tackling waste and working towards a more environmentally sustainable future is the responsibility of everyone, and we are glad to be able to play our part." For specific items and requirements, plastic protection can still be requested as an optional extra. Find out more about why Garador is Britain's leading garage door manufacturer by visiting the website.

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Enhance the durability of your blue or green roof with Bauder Total Green Roof System PLUS

Bauder has launched BauderSMARAGD, a new root resistant cap sheet to be incorporated in Bauder Total Green Roof System PLUS (BTGRS PLUS) flat roof solutions for green roof, blue roof and BioSOLAR projects.

The BTGRS PLUS system increases the range of waterproofing solutions available for all types of green roofs including intensive and extensive systems, blue roofs and BioSOLAR installations for green and PV integrated solutions. The system incorporates BauderSMARAGD root resistant cap sheet, BauderTEC KSA DUO 35 self-adhesive underlayer and can be used with a selection of Bauder insulation types to suit the project needs. BauderSMARAGD is specifically designed to sustain the high performance demands that these roofs can require.

BTGRS PLUS can be utilised in the design of both new build and refurbishment projects in cold, warm, or inverted roof construction. The system is particularly suited to new build



projects, when the deck can be designed to take the additional weight imposed by the chosen finish. Additionally, with modern planning conditions, most local authorities require new buildings to include both a green roof and a significant percentage of site sourced renewables. The BTGRS PLUS system build-ups can achieve sustainable

targets when specified with a green roof, blue roof or BioSOLAR roof.

This waterproofing system has a service life in excess of 35 years, as stated in BBA Certificate 10/4744. When covered by an appropriate landscaping finish, it is also considered to fulfil all of the requirements for the performance characteristic 'external fire performance' without the need for testing under European Commission Directive 2000/553/EC for listed build-ups achieving compliance to B4 section 12. This robust bitumen membrane system is accompanied by a comprehensive guarantee package, covering all the Bauder elements on the finished roof.

Bauder is a leading manufacturer of flat roof materials including waterproofing membranes, insulations, solar PV and green and blue roofs.

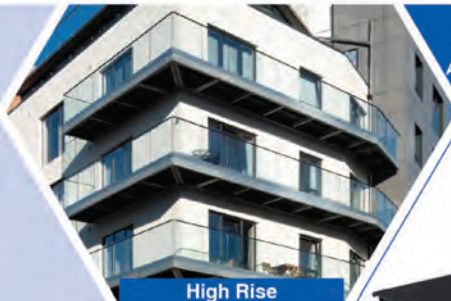
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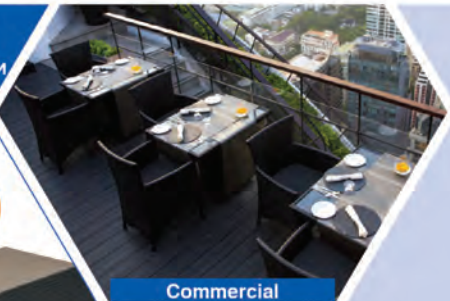
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Delta's Managing Director Kevin Dodds said: "We are extremely proud to be



launching Delta Amphibia, whilst the Covid-19 pandemic saw Delta reimagine nearly every facet of our operations, it also accelerated our product development. In our experience helping customers and clients to solutions which stand out for their substantial benefits, as well as for their ease of application is at our core. With updates to BS8102:2022, Delta Amphibia is sure to be a popular choice with specifiers and installers."

David J Symes concluded: "In an ever-changing built environment, it's vital for manufacturers to continue investment in product innovations which will allow us to continue our ambitious growth journey and

support our mission to provide permanent solutions to age old problems."

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Do you have questions about a project, product, or application? In an ever-changing industry where reduced risk and higher quality is required, you need a waterproofing design partner that is proactive and dedicated to help you keep up with innovative technologies and solutions to ensure your projects thrive. Whatever the needs of your business, you can rely on the #DeltaTeam to ensure you get the right advice, support, and practical help at exactly the right time to keep you ahead of the competition.

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Moisture management

Unmanaged excess subfloor moisture is the leading cause of floor failure and frequently results in delays to projects, major inconvenience and expense when remedial work is required. Stephen Boulton at F. Ball and Co provides crucial advice to guard against such issues



Unchecked subfloor moisture, whether residual construction moisture or rising damp, can attack flooring adhesives and floorcoverings, causing wood to warp and damaging textile floorcoverings by promoting mould and bacterial growth. Not only can this ruin the finished appearance of a flooring installation, but it can potentially cause floorcoverings to de-bond, resulting in complete floor failure, and present a health hazard.

F. Ball's technical service department frequently receives enquiries from contractors who have been called to rectify a recent flooring installation where floorcoverings have begun to lift as a result of unmanaged excess subfloor moisture, and our regional technical representatives often attend site visits where this is the case.

To prevent floor failure due to excess subfloor moisture, it is important to take

time to determine subfloor moisture levels and deploy an appropriate moisture management solution, where necessary, prior to installing floorcoverings.

Testing

It is recommended that a moisture test is undertaken as part of any flooring installation, having first prepared the subfloor so that it is suitably smooth, sound and free of contaminants. If the subfloor Relative Humidity (RH) levels exceed 75% (65% if wood floorcoverings are to be installed), a moisture management solution will be required to prevent excess subfloor moisture attacking adhesives and damaging floorcoverings.

A quick, non-intrusive way to identify the presence of subfloor moisture is to use a handheld radio frequency moisture metre. If the device indicates the presence of moisture in the subfloor, further testing

It is recommended that a moisture test is undertaken as part of any flooring installation



The application of a liquid waterproof surface membrane is the usual solution for effectively controlling dampness

will be required to determine the precise subfloor relative humidity levels and if a moisture management solution is required.

The only method of measuring subfloor relative humidity levels with certainty, and the method advocated by British Standards, is to use a calibrated hygrometer. These devices measure the relative humidity of a small volume of confined air in equilibrium with the subfloor, taking into account the ambient temperature.

The device is affixed to the subfloor using butyl tape to create an airtight seal around the base of the instrument. It is then left for a sufficient amount of time to allow entrapped air to reach moisture equilibrium with the screed or base before the unit is switched on. Equilibrium can generally be assumed after leaving the instrument overnight and readings taken four hours apart are identical. It is recommended that multiple digital hygrometers are placed at regular intervals across the entire subfloor area to avoid the prospect of localised excess moisture not being detected.

Waterproof surface membranes

There are a number of options available to contractors for creating a barrier to protect the floorcovering from high levels of moisture detected within the subfloor.

The application of a liquid waterproof surface membrane is the usual solution for effectively controlling dampness. The best-performing epoxy waterproof surface membranes will isolate excess subfloor moisture where relative humidity values are up to 98%, with a single coat application, which will fully cure in as little

as three hours.

Quicker, two-coat, water-based systems are also available that will create an effective barrier against residual construction moisture where relative humidity values are up to 95%. The first coat cures in 15-20 minutes. A further 30 minutes curing time is required for the second coat.

An alternative solution

An alternative solution for dealing with damp is available for where a waterproof surface membrane cannot be applied. This may be the case where flooring installations are part of a refurbishment project and screeds are contaminated with oil, other chemicals or old adhesive residues. It is also useful in heritage settings where the subfloor must be preserved.

In these situations, a loose-lay isolator membrane can be laid directly onto the subfloor, without the requirement for an adhesive, to provide a barrier to stop excess subfloor moisture causing floor failure.

These membranes typically have nodules on the underside, creating an airspace to allow water vapour to travel to the edge of a room, into a dry wall or ventilated area, where it can safely escape. A wide range of floorcoverings can be adhered to its upper surface. This enables durable new floors to be installed and easily removed at a later date, allowing buildings to be returned to their original state and offering a solution for temporary flooring installations.

Next steps

When a suitable moisture management solution is in place, contractors can proceed with preparing the subfloor for the installation of new floorcoverings. Where an isolator membrane has not been used, this should include the application of a levelling compound to create a perfectly smooth base for the receipt of floorcoverings, remembering to prime beforehand if necessary.

Contractors can proceed to install floorcoverings using an appropriate adhesive once the levelling compound has cured. At this stage, the compatibility of particular floorcoverings and adhesives should be checked to further ensure against floor failure. To do this, contractors can consult the adhesive manufacturer's Recommended Adhesives Guide or see the floorcovering manufacturers' instructions.

Stephen Boulton is technical service manager at F. Ball and Co

SterlingOSB Zero sets the standard



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

uk.westfraser.com/housebuilders

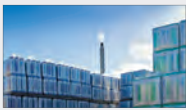
IG Masonry Support at Somerville College



For high quality, contemporary student accommodation at Somerville College in Oxford, **IG Masonry Support** was able to create a solution that offered striking aesthetics while complementing the adjacent listed buildings and sensitive character of the conservation area. Constructed using a cross-laminated timber frame which offered a low-carbon alternative to concrete, the building's external walls were built using a combination of hand-laid and prefabricated brickwork elements around the facade's windows. Such was the success of this well-thought-out exterior design the building won the Best Educational Building at the Brick Awards 2021.

01283 200 157 igmasonrysupport.com

Knauf Insulation to invest over £45m



Knauf Insulation has announced a series of investments in its two UK Glass Mineral Wool plants that will boost capacity as well as improve the range, availability and sustainability of its products for the benefit of its customers. In

St Helens, Knauf Insulation is set to invest over £40m to increase the plant's total capacity by c30,000 tonnes per annum from late 2023/early 2024 and to acquire the large adjacent Pilkington Architectural site from NSG Group. It is also investing in excess of £5m in packaging equipment at its Cwmbran plant to enable the production of Glass Mineral Wool slabs in addition to the plant's current roll and blowing wool capability.

01744 766 600 www.knaufinsulation.co.uk

Updated Part F CPD from Titon available



Following the update to the Building Regulations 2010 (Part F1 Dwellings 2022), **Titon** has revised its 'Part F 2010 Domestic Buildings Compliance' CPD presentation to help gain a deeper understanding of the new requirements. With the updated edition of Part F released for implementation in June 2022, there have been many important changes which are clearly demonstrated within the updated CPD. Titon's aim is to provide an explanation of the requirements of the Part F 2022 update regarding ventilation, and the three systems examples that are used, and to emphasise the need to ensure that the installed performance meets expectations to achieve full compliance.

01206 713800 www.titon.com/uk/contact

NEW
Part F CPD
Now Available



Revised Building Regulations: Ventilation & Energy Efficiency

Increase in ventilation requirements?

Let us clear the air.

The revised Building Regulations require an increase in ventilation to improve indoor air quality and balance the need for more energy efficient residential dwellings.

Talk to us now to discuss how we can explain the changes and offer our expert advice on ventilation to help clear the air.

Visit our dedicated help pages at:
titon.com/regulations

Call us on 01206 713800 or email enquiries@titon.co.uk



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ecodan.me.uk/ad5

Design freely with the Origin 55 Luxury Vinyl Tiles collection

O rigin 55 is the new Luxury Vinyl Tiles flooring collection from IVC Commercial, letting you design freely with people in mind through quality, loose lay installation, better acoustics and design flexibility.

With loose lay installation and plank and tile formats that lets you mix and match seamlessly with carpet tiles, IVC Commercial's Origin 55 Luxury Vinyl Tiles collection brings design freedom to flooring for projects. Designed and made in Belgium to be completely recycled, projects benefit from a more sustainable floor as well.

Origin 55's designs explore the fundamental connection to nature, bringing calm and peace to the great indoors. With the lifelike tactility of an ultra matt and emboss in register finish – where texture accurately tracks the pattern – each Origin 55 design is authentic and original. Origin 55 planks and tiles are also cut from an extra-large pattern to avoid obvious repeats and to

further enhance the natural look. The extra-large pattern also allows IVC Commercial to create larger plank and tile formats that are designed to be used alongside its carpet tiles and carpet planks, such as the Rudiments and Imperfection collections.

Seamless compatibility with carpet tiles is only made possible with Origin 55's loose lay format. Installed in the same way and eliminating the need for transition strips, Origin 55 Loose Lay makes multi-material flooring design simple to achieve in offices, hotels and hospitality, housing, retail and more. And for those projects where noise is a concern, Origin 55 Loose Lay Acoustic features a built-in pad that provides up to 19dB of impact sound insulation to make spaces more supportive and productive. Origin 55 Acoustic also features additional patterns for even more freedom in your flooring designs.

Made in Belgium, the Origin 55 Luxury Vinyl Tiles collection is made from materials



that are 100% REACH compliant and European sourced. Thanks to the installation flexibility of loose lay and a 100% recyclable construction, when it's time to refresh the project, IVC Commercial can recover Origin 55 and recycle it in its own facility through the Take Back programme, bringing it right back to where it started.

Origin 55 is part of the new Origin Luxury Vinyl Tiles family from IVC Commercial, including the Origin 70 collection for the ultimate in performance and design freedom in high-traffic areas.

01332 851 500
www.ivc-commercial.com/en-gb

Flexible Space at your service



Leading under-floor air conditioning specialist **AET Flexible Space** is focussing on an initiative that optimises a safe, compliant working environment in commercial buildings. Addressing changes to best practice guidance (Building Regulations Approved Document F) under which manufacturers should provide maintenance instructions, AET Flexible Space has taken the recommendations further. It offers a comprehensive tailored service & maintenance package for its innovative underfloor air conditioning (UfAC) system. AET Flexible Space believes it offers one of the most comprehensive and flexible service and maintenance packages available. It offers quarterly maintenance visits to check and clean key components, with filters changed every six months. Once the contract is agreed, clients can relax and leave AET Flexible Space to undertake all contractual obligations re maintenance of the system. Jo Hill, Flexible Space Operations Manager said: "AET Flexible Space goes 'above and beyond'. We provide extended warranties not only on our products but also on the other HVAC products/parts. With approximately 30 years' experience, we know how best to keep the system operating at its optimum, hence why we advise quarterly checks."

01342 310400 www.flexiblespace.com

Cork without compromise

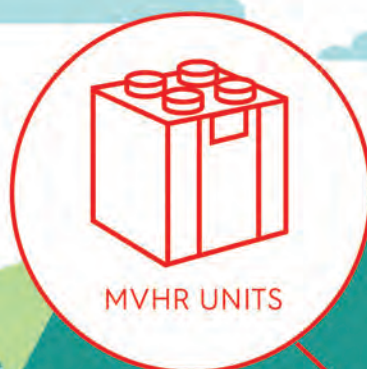


Granorte's Vita Décor collection combines the natural and sustainable attributes of cork with looks that capture classic and modern flooring looks. The Vita Décor collection comes into its own as an alternative solution to natural cork finishes. It still incorporates the sustainable and renewable values central to Granorte's range, but through direct to substrate digital printing techniques, Vita Décor explores the aesthetics of heritage parquet patterns, contemporary mosaic, tile, cool stone and trim styles. Paulo Rocha, product and R&D manager said: "Our Vita Décor allows specifiers and interior designers to embrace patterned surfaces within their projects while incorporating cork's natural attributes and ethical credentials." All Vita Décor floors share the same performance, harnessing cork's unique attributes to ensure excellent sound absorption, underfoot comfort and thermal insulation. Equipped with WEARTOP® for a durable and easy to maintain surface, as well as Uniclic® for rapid installation and Microban® for antibacterial protection; Vita Décor is a floor packed with innovation. Available in 22 designs, Vita Décor achieves a Class 32 Light Commercial rating, making it suitable for light-traffic retail, hospitality and commercial projects.

01785 711131 www.granorte.co.uk

Ultra-efficient MVHR: from room to roof

...the simple, single-source solution from Ubbink



A variety of Schlüter-KERDI products aid in the correction of previous installation



It is not unusual for tile and stone protection experts Schlüter-Systems to be called upon when a bathroom or wetroom installation fails. If the preparation hasn't been executed to the appropriate standard, it will likely lead to failure later down the line. If this is the case, recognising and rectifying this before any further work is carried out is the best course of action.

An example of this was a residential property in Lancashire which saw a variety of Schlüter-KERDI products aid in the correction of a previous installation, resulting in a stunning high-end steam room ensuite. Although the task at hand was a challenging one, Steve Wagstaff of Pro-Tilers UK was not deterred. Initially brought in to finish off the project with the addition of some beautiful tiles, he saw that the original work was not up to scratch.

Having previously attended one of Schlüter's popular training courses, Steve became well versed in all things orange. He comments: "After seeing what the client was left with, it became clear that we needed a reliable solution to get it right this time around – Schlüter products have always worked well for us especially in this type of area, so it was the perfect fit." This quickly put the client at ease and reassured them that the products chosen would assist in the necessary course correction.

Once this decision was made, Steve got to work installing Schlüter products within the shower/steam area of the ensuite. He created two benches using the popular tile backerboard Schlüter-KERDI-BOARD, which became a prominent and beautiful feature within the room once finished. This process was simplified using Schlüter-KERDI-BOARD-ZB, a U-shaped stainless-steel profile, which specifically connects structures made from panels of Schlüter-KERDI-BOARD.

The steam room section, which was separated by a glass screen, was waterproofed

using Schlüter-KERDI-DS along with Schlüter-KERDI-COLL-L and sealing band Schlüter-KERDI-FLEX giving a reliable and long-lasting waterproof solution. To finish off the steam area, a frameless Schlüter-KERDI-LINE-DRAIN was installed, nestled between the benches for a seamless and attractive tiled finish.

As a piped, water-fed, underfloor heating system had already been installed, it made sense to add the uncoupling membrane Schlüter-DITRA-25 on top of it to ensure that the tiles could be installed without any issues of cracking later down the line.

Steve concludes: "The team at Schlüter were on hand to provide advice and support throughout this entire process. They suggested out of the box ideas for the space and were quick to come back with the perfect Schlüter solution. We were thrilled to see how pleased the client was with the finished steam room that they could finally enjoy using."

Illustrating the importance of sub-surface preparation using a variety of Schlüter products and solutions, the result of a stunning steam room has given the homeowner a calming and relaxing space within their home to enjoy for many years to come.



01530 449513
www.schluter.co.uk

Optitherm – you're in the safest hands

The year following its launch to market, the Optitherm thermostatic clinical handwashing tap from Horne won the coveted Building Better Healthcare (BBH) Award (Best Interiors Product). A modular unit, it is a combined thermostatic mixing valve, a warm water tap and dedicated cold water tap. It has been designed specifically to ensure safe surface temperatures, and deliver a smooth column, without splashing, of precisely temperature-controlled warm water for clinical and surgical handwash. Its novel dual-lever arrangement facilitates hands-free operation for enhanced infection control, while its modularity supports easy installation, which can also be phased (spigot then tap body), site commissioning and, later, maintenance.

The importance of a clean healthcare environment was a major consideration during the Optitherm's development; a polished, smooth and continuous surface facilitates easy cleaning. There are no recesses where dirt and pathogens might dwell. The outlet flow-conditioner fitting, a critical component for managing retrograde



contamination of the tap fitting, is also designed for easy removal, substitution or ultrasonic cleaning and replacement.

The BBH judges said of the Optitherm: "A truly wonderful product that demonstrated innovation and technical excellence", while the excellent presentation at the product pitching day "demonstrated a clear appreciation of the needs of the healthcare environment."

Today the Optitherm is installed, in its thousands, across the UK public and private healthcare estate, and is favoured among nursing, medical and estates and facilities staff for its comfort, safety and reliability.



A recent change of supplier for the Optitherm's outer chromium-plated body – transferring production to the UK – has also presented an opportunity to review and update the original 2007 design. Now more streamlined, using less brass and associated chromium plating, the redesign further reduces the volume of the tiny mixed-water dead-leg, and incorporates previous improvements to the connection to the outlet flow conditioner.

In the Safest Hands – the new Optitherm from HORNE.

01505 321455 b.link/SafeHands

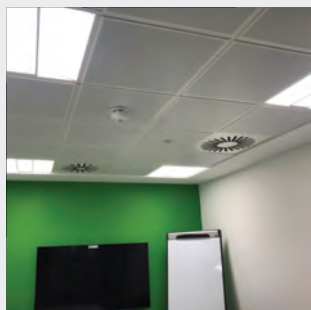
Kaldewei bathroom solutions – introducing Whirl systems



Kaldewei Whirl systems combine top quality, state-of-the-art bathroom design with the joy of a luxurious private spa, offering intensive massage, a gentle caress or floating weightless in the water. Installed in Kaldewei steel enamel bathtubs, these systems impress with their integrated automatic cleaning system, providing a wellness solution that is both hygienic and sustainable: From a vigorous almost sports style massage through to a gentle caress, the bubbling, pre-warmed air bubbles in illuminated water can be altered in intensity and type of wellness treatment to suit the individual. There are four different massage systems available: BODY & SOUL, SOUL, FULL BODY, and BODY. Relaxation is guaranteed and you can even switch to silent mode, when the flat nozzles work quietly to ensure the atmosphere of well-being is not disturbed. Sustainability is a key to Kaldewei, but elegant design and trendsetting style is equally as significant, the Whirl system can be installed in all Kaldewei bathtubs and maintaining Kaldewei's green credentials as they are made from luxurious steel enamel which is both durable and 100% recyclable.

01480 498053 www.kaldewei.co.uk

Luceco's "installation friendly" Sigma at Tilbury Douglas, Birmingham



Luceco has recently supplied Sigma luminaires for the new facilities at Tilbury Douglas's offices in Birmingham. Tilbury Douglas is a leading UK building and engineering company with over 130 years of experience in the Construction and Building Services Industry. Platinum Mini Downlighters were fitted throughout the communal spaces with Sigma installed in the Meeting Rooms at Tilbury Douglas's new offices. The lobby, break-out areas, and Kitchen spaces were lit with Platinum Mini Downlighters, a recessed luminaire offering an efficacy up to 117 Llm/cW, with a unique swing tab design for quick and easy installation into a 152 mm cut-out. The die-cast aluminium body is designed to provide optimal thermal control with gloss or matt reflector options. The meeting spaces were lit with Sigma, a stylish, installer friendly, Direct/Indirect recessed luminaire for low glare applications designed to assist with LG7 compliant settings. Backlit LED technology and a central Tp(a) microprism optic with opal side optic ensures suitability for office environments offering UGR 19 compliance and less than 3,000 cdm² at 65°.

01952 238100 www.luceco.com

The devil is in the detail

Richard Richardson-Derry of GEZE UK looks at how a properly fitted fire door with the appropriate components can give occupants vital time to escape in the event of a fire

Despite what most people believe, toxic smoke is the cause of the most deaths in fires, as opposed to the fire itself. So what constitutes a fire door?

The BWF Fire Door Alliance states the term usually refers to a fire door leaf which is the main component installed into a fire-rated frame, along with 'essential ironmongery' to make the door perform correctly in the event of a fire.

However therein is the challenge – when not required to be a fire door it must still perform everyday functions of providing safety, security, privacy, separating different areas and reducing noise in a building.

When an architect specifies door products, it is imperative that as well as achieving the everyday design requirements, factors relating to fire resistance are also a key consideration in order to achieve regulatory compliance.

Under the spotlight

Apart from the frame and door leaf, a fire door includes a door closer, smoke seals, hinges, push pads or handles, signage, and maybe a vision panel. Each and every component must be fit for purpose; should any component fail then the whole fire door assembly could fail. And any item that is badly fitted or wrongly specified could contribute to the spread of fire.

For each part of the fire door there are standards that must be adhered to.

The door and frame should be installed securely and plumb and true with a maximum gap of 3 mm to all sides for a fire door with smoke protection (for a general fire door the gap can be up to 10 mm).

The door closer is an important part of the fire door assembly and it is critical to specify a suitable unit and ensure minimum size EN 3 is used.

All doors must be fitted with intumescent seals – they play a major role in fire safety as they will expand to around 10 times their volume when significant heat is applied.

Hinges are a critical part of a door, carrying its weight and allowing free



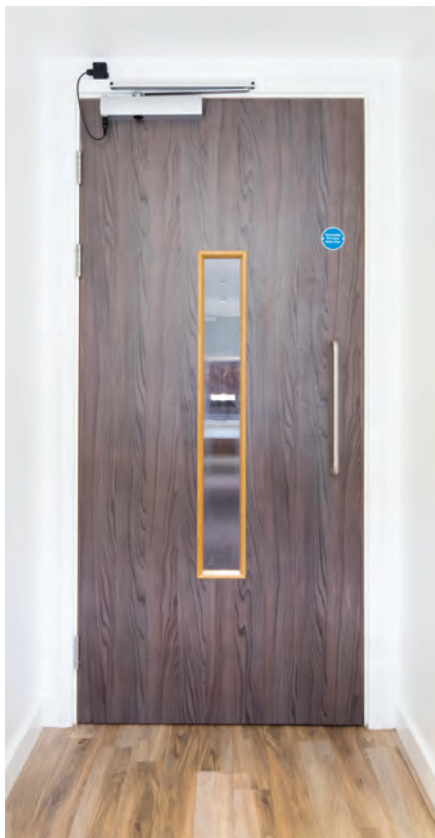
movement of the door leaf but also helping to keep the door straight during a fire episode. There should be three hinges in a fire door up to 2,100 mm high. For doors over 2,100 mm high, exceeding 150 kg, or over 100 mm wide there should be four. All hinges for fire doors should be made of steel or stainless steel and have a melting point of no less than 800°C.

All relevant push pads, handles and kick plates must have the required test data and standards and should have a melting point of at least 800°C. Locks need to comply with BS EN 12209 and lever handles with BS EN 1906.

Signage on a fire door is required, such as 'Fire Door Keep Shut' or 'Fire Door Keep Locked'. They need to conform to BS 5499: ISO 7010.

Vision panels can be introduced to a door specification for reasons of safety,

For each part of the fire door there are standards that must be followed



aesthetics, or to allow transfer of light, however the relevant seals must still be used so as not to compromise the integrity of the fire door and only suitable fire tested glass should be used.

Specifying a closer for a fire door

There are four main types of closer – surface mounted with link arm, surface mounted with guide rail, concealed, and floor mounted closer. All should be tested, approved and certificated to harmonised standard EN 1154, BS EN 1634-1 and have Certifire or similarly approved testing. In addition, a closer should be CE marked or hold the new UKCA (UK Conformity Assessed) certificate (effective from January 2023).

There is also the application to consider: which closer is best suited to the door type, size, location and intended use of the door? Another consideration is the best fitting arrangement, and again this is dependent on door type, size, location and use.

There are several different configurations for a variety of applications that also need to be taken into account including fitting configurations, using brackets, mounting plates or spindle extensions to overcome specific site details. All should be specified in accordance with test evidence.

Another consideration is being able to adjust the closer. The correct adjustment of the closing force is needed to ensure it meets the requirements for access under Part M and BS 8300 with Part B of the Building Regulations for fire as well. Correct adjustment refers to electro hold open, back check, closing speed, and latch action to ensure the door opens and closes safely and securely.

All door closers complying with EN 1154 will have a six figure classification which should be marked on the door closer.

The power of door closers according to the EN 1154 standard are rated from one to nine, for example a size three door closer has a closing force of 18 Nm (Newton Metres), where Nm is the closing force exerted by the door one metre from the hinge point. It should be noted that the minimum size allowed for any door closer on a fire door is size three.

In summary, while all the component parts of a fire door must be thoroughly tested and conform to all relevant standards, the most important aspect is that they must work together as a doorset.

Richard Richardson-Derry is national specification manager for GEZE UK

Biophilic design: the new colour collection from Formica Group has it covered



Formica Group, the world's leading and original creator of laminates, has launched a striking and sophisticated new collection, drawing inspiration from the natural world to create a range of complementary palettes. The Formica® Collection introduces 15 new plain colours, 34 new wood patterns, and eight new Plus Colors in four premium finishes, addressing a growing trend in design that brings natural influences, colours and patterns into our interiors. Nina Bailey, European Design Lead for Formica Group explains: "The new collection encompasses a sense of organic sophistication. Both the new colours and woods resonate with current culture and the ongoing trends for natural and earthy interior environments, combined with the move towards artisan design and the handmade approach." As the world reopens, commercial, hospitality and leisure spaces are embracing so-called biophilic design – incorporating nature and natural inspiration into interiors – as they welcome back employees and entice customers into their stores, hotels, restaurants and other public spaces. Nina agrees: "It was important to us that our new collection evoked a sense of calm that the natural world provides".

0191 622 0106 www.formica.com/ukshowroom

Beautifully engineered, beautifully smart



Elisa™, a new premium bathroom brand, has launched in the UK. First to be unveiled in the Elisa collection will be a range of heritage-style mixer showers and smart digital showers, designed for homeowners seeking a contemporary and personalised showering experience. Smart shower technology brings enhanced wellbeing to owners through its personalisation settings, while providing greater visibility of water usage to promote sustainable living. Sophisticated, stylish and intelligently-designed, Intuition and Incite smart digital showers offer an exceptional showering experience for the entire family. With the accompanying ShowerMe™ Smart App, every member of the household can create their own personal profile for a fully tailored shower routine that meets their exact needs. Users also enjoy the luxury of voice control through their existing smart home system thanks to seamless connectivity with Google Assistant or Amazon Alexa. Launching at the same time, the Valenteena mixer shower from Elisa adds a touch of heritage luxury to any bathroom environment. Timelessly beautiful in its styling, and built from solid brass and the highest quality components, this premium shower delivers proven reliability and ultimate durability.

01959 560003 www.elisabathrooms.com



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

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

01782 591100 www.bal-adhesives.com

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Imaginative and integrated interior design, Vicaima makes it real!

Vicaima, as one of the leading European exponents of contemporary joinery solutions, including interiors doors, doorsets, wall panels and associated furniture products, have just introduced a new brand for professionals called Infinity. Combining their extensive experience within this sector with the latest technological advancements in image realisation, they present a major step forward for the world of interior design, enabling creative vision to be made real, with imaginative design composition that encompasses multiple elements.

No longer constrained by conventional limitations, Infinity provides scope for interior design professionals to think beyond what they thought was possible, towards what they would ideally like to achieve. Whether creating a theme that brings rhythm and repetition, or a more dramatic and contrasting vision with pronounced statement pieces, Infinity can make it real.

Infinity permits almost endless possibilities when it comes to visual aspect, with choice of colour, tone, pattern and even the perception of texture. This enables interior designers and specifiers complete flexibility when aiming to deliver bespoke project solutions. However, for those professionals looking for insight from the Vicaima experts in trends and fashions, Infinity's top three collections offer a myriad of fresh inspiration. Select from either wood, stone or metal for an immersive experience which includes among many



others, Spalted Maple, Terrazo Amber and Antique Patina.

Once the design and hues have been chosen, it is then a matter of selecting which joinery elements can be combined to reflect the desired theme. Here Infinity broadens horizons and uniquely permits creators to match and play with individual pieces in

a way that has traditionally been limited. Blending integral building elements such as interior door assemblies and decorative wall panels, with more ephemeral components like wardrobes and furniture to achieve the perfect balance.

While flexible aesthetic design is the hallmark of Infinity, it should not be forgotten that as a Vicaima brand, superior quality and performance are integral to all elements. Exceeding industry recognised standards and in the case of doors and doorkits, third part fire accredited to both TRADA and the British Woodworking Federation, all products are environmentally produced and FSC certificated.

Infinity marks a new era in design for interiors, whether in public, commercial or residential applications. Expanding, evolving and elevating both the creative process and eventual project realisation by combining visionary image technology with industry leading joinery manufacture, to achieve outstanding results.

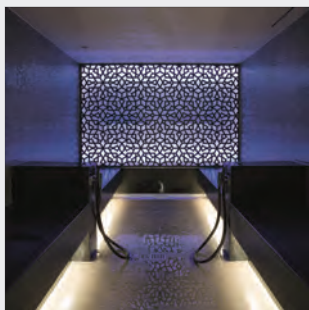
For more information or to request a brochure visit the website.

01793 532 333

www.vicaima.com/en-gb/infinity



Mapei launches new cementitious & epoxy grouts, with supporting Mapei Grouts app



Mapei has introduced 12 new colours to its Ultracolor Plus range, as well as a new range of epoxy grouts – Kerapoxy Easy Design – and a supporting Mapei Grouts app, to aid specification and colour-matching. The 12 new Ultracolor Plus shades reflect the latest ceramic colour trends and join existing colours within the range. Ultracolor Plus is a fast setting and drying flexible polymer modified grout designed for interior and exterior wall and floor tiles. The second launch – Kerapoxy Easy Design – is a new range of epoxy grouts that combine improved performance features, workability, safety and design scope. The new formulation is very low VOC and non-absorbent, as well as highly resistant to chemicals, to the formation of micro-organisms and bacteriostatic. Kerapoxy Easy Design is suitable for residential and commercial settings, including swimming pools and wellbeing areas. To help designers and end clients choose the best match with tiles, Mapei has created the Mapei Grouts app, available for both Android and iOS. Using an image of the specified tile, grout options can be simulated and the most suitable colour selected. The app also calculates the quantity of grout needed and identifies the most suitable formulation.

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

Tiles for any type of pool with Aquatechnica



With solutions for competition, spa and health clubs, residential and outdoor pools, Aquatechnica™ system-based tiles are now available exclusively through Parkside Architectural Tiles & Strata Technical Tiles. For tile solutions for swimming pools turn to Aquatechnica™, a system-based approach that lets you develop a unique tile specification for competition leisure, residential and outdoor pools. The Aquatechnica portfolio includes everything needed to deliver a tile specification that works hard for your swimming pool project. With pool tank, surround, changing room, wet area, circulation, outdoor and complementary area tiles, profiles, movement joints, adhesives, epoxy grouts, renders, screeds and waterproofing; Aquatechnica delivers a total answer from design to installation. The Aquatechnica range of specialist tile solutions for competition and diving pools ensures that sports and performance centres can benefit from pool tank and edge systems for high and low water swimming pools. The range includes metric formats suitable for short course (25m) and Olympic standard (50m) pools, along with anti-slip across a wide collection of different styles and designs.

0116 276 2532 info@parkside.co.uk

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Harlequin Floors launches Harlequin Liberty Switch



Harlequin Floors, the global leader in advanced technology flooring for dance and the performing arts has launched a pioneering new floor system. Harlequin Liberty Switch™ is a professional multi-use floor that can be switched from a rigid theatrical floor to a sprung dance floor at the touch of a button.

This innovative and versatile floor has been designed for venues who regularly put on both dance and theatrical performances and so require both a sprung and a rigid floor in the same performance or rehearsal space.

Earlier this year Harlequin installers from the UK, Luxembourg and Berlin teamed up to install Liberty Switch at the Opera House in Vienna, one of the leading opera houses in the world. The Vienna State Opera and Vienna State Ballet needed a rehearsal space that they could both access day to day.

Martin Schlöpfer, Ballet Director and Chief Choreographer of the Vienna State Ballet, said: "We are extremely excited to be the first venue to have Harlequin Liberty Switch! It is easy to use and it is great being able to switch between a sprung and rigid floor so quickly."

Harlequin Liberty Switch™ is a modular multi-use floor system comprised of a base unit with the drive and control mechanism topped with a Harlequin Liberty sprung floor. The base units house a series of moving carriages connected by rods running on high-strength carrier rails powered by electric actuators located at the ends of each row. Each actuator and associated controller are linked to a master control unit located off-stage. The upper surfaces of the base units are fitted with wooden battens which align with the sprung elastomer pads of the Harlequin Liberty panel above. The upper

panels are standard Harlequin Liberty with the addition of UHMWPE (ultra-high molecular weight polyethylene) low-friction blocks on the underside.

This new approach has many benefits over the old approach of swapping floors between shows. It transforms between a sprung floor to a rigid floor in minutes, is more cost effective than an equivalent ballet wagon, there are no labour costs in laying and removing a temporary floor and no storage costs.

Harlequin Liberty Switch™ is a modular system that can be modified to meet any structural design requirements and can be custom designed to incorporate features such as traps, lifts and revolves as required. Areas of the floor can be quickly isolated to create rigid zones for the placement of pianos, scenery or retractable seating while the rest of the floor is used as a sprung dance floor.

Operation of the Harlequin Liberty Switch floor system is via a hard-wired master control unit. This can be integrated with most existing stage control or building management systems. A wireless control system with remote monitoring can be specified if required.

To discuss Liberty Switch or other performance floor requirements, please contact our technical team.

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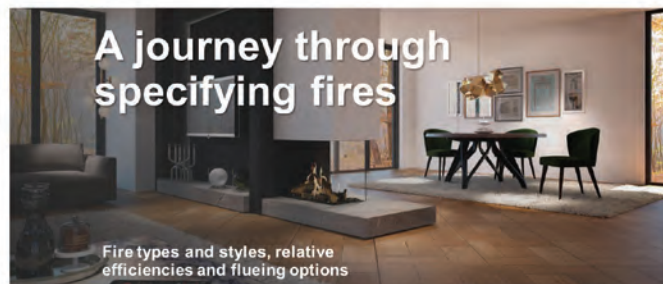
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The hidden places in the home are, arguably, the most cluttered and tricky to keep clean; no one sees them anyway? BLANCO UK has put paid to this notion with the company's portfolio of innovative waste disposal solutions, part of the popular BLANCO UNIT concept. The UNIT has been designed for the busiest area of the kitchen and is designed to help customers create feature-rich, creative kitchen hubs; and retailers with "upselling" opportunities. The system combines sinks, taps, in-cabinet waste and organisation systems into innovative and flexible solutions for modern kitchen life.

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Infinite design possibilities with Pyroguard



Recognising the emphasis on light and open interior spaces, Pyroguard is pleased to announce the publication of its new Pyroguard Infinity brochure, designed to provide architects and specifiers with all the information they need on its range of fire safety glass for butt-joint applications. The new brochure, available to

download from the Pyroguard website, is designed to be an informative and inspirational resource for architects and specifiers. Featuring a high-end design and containing all of the latest product information, the brochure also features a selection of architectural case studies.

01942 710 720 pyroguard.eu

New Saniflo campaign wins praise



It can be quite hard to get excited about a macerator. To most people, it's just a white box that pumps away black water waste from a WC. Saniflo – the original inventor and leading manufacturer of the humble macerator – is dispelling this belief with its new, striking advertising campaign designed to stimulate ideas and boost sales for trade customers. Saniflo emphasizes that when you

consider the possibilities that a small white box affords, it can open up a whole new mindset to converting unused spaces. The point is that when gravity drainage isn't an option, a Saniflo usually is.

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Millboard chosen for RHS jubilee tribute



Millboard is part of an RHS Chelsea platinum jubilee tribute to The Queen taking place at the Chelsea Flower Show this year. A photography exhibition at the centre of the show's Great Pavilion is displaying images of The Queen visiting the show throughout her life. The setting,

designed by award winning garden designer and landscape architect Dave Green, includes an accessible deck walkway that flowing around the images, set amongst a woodland inspired planting scheme. The deck walkway is made from Millboard's Weathered Oak Embered boards.

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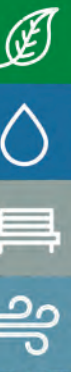
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Water neutrality can't be an afterthought

Adam Dean from SDS raises the challenging question of reducing our water footprint and dives into the concept of water neutrality



Are you familiar with the concept of water neutrality? The chances are, like most people, the term 'carbon neutral' is much more familiar and understandable to you. Many of us – in our personal or professional lives – are used to thinking about our carbon footprint. But what about your water footprint? Have you ever thought about that?

I'm not saying energy and carbon saving aren't vital if we are to reverse global warming. But, we rely on water to live. We can't live without it for even a few days. And yet, we take water for granted – and we waste a lot of it. Treating and managing water has its own carbon cost, too; we will never get to carbon neutral without addressing what it takes to become water neutral as well.

Water neutrality is not just for theoretical contemplation. It's already making an impact on people's lives in the UK and it will not go away. In one area of Sussex, the Local Plan to build 17,000 new homes was halted last year, and a moratorium placed on all new developments unless they can be demonstrated to be water neutral. The ban was imposed after Natural England decided enough was enough, following over-abstraction of water from the local environment. The amount of water being taken from the sensitive River Arun could no longer be tolerated.

Water neutrality is where a new development must not result in any increase in demand for mains water within the planning area in which it is situated. It's something that local people, developers and

Despite their position in the SuDS Manual at the top of the design hierarchy, rainwater harvesting and reuse systems have failed to become mainstream



Rainwater recycling is one of the oldest, and simplest, water technologies; systems do not need to be complicated or expensive

businesses in Sussex are already having to live with. How long will it be before other places follow suit?

When you know that water will run out if you use too much of it, you have a different mentality. My career in the water industry has partly been forged in this contrast: when I came to live in Britain from Australia an adult, it seemed to me to be raining all the time! Yet, now 80% of the UK is classed as water-stressed. That would baffle most Australians.

How do we even begin to calculate our water footprint and aim to become water neutral? Most of us would find it difficult to know where to start. Before we even begin, we must assign water its true value.

The Hollywood actor Matt Damon famously made people stop and think about the value of water in a stunt at one American hotel. Guests were denied water for six hours. It made them angry. Then they were shown a film showing them what it is like for millions of people in the developing world who have to walk six hours a day just to get water to survive. It made them cry. The video “The Wait for Water” is on YouTube.

Some parts of the UK are at serious risk of not having enough water in less than 20 years. The dual forces of population growth and a straining water infrastructure have led to massive pressure on our water supply. Yet, compared to other European countries, water here is cheap; most people expect water to be almost infinitely and freely available.

Our demand for water will continue to exceed supply until we attach greater value to it and manage it properly. In other countries, people are used to restrictions with their mains water usage. Yet, many people in the UK feel affronted if they are even prevented from watering their lawns for just a few days.

In Australia, basic rainwater harvesting systems are commonplace. Rainwater recycling is one of the oldest, and simplest, water technologies; systems do not need to be complicated or expensive. If water reuse were widely introduced in homes across the UK, it would go a long way to closing the gap between predicted demand and supply.

Collect rainwater at source

Just as we are waking up to the concept of managing rainwater at source to prevent flooding, we need to consider water consumption in the same way. We waste heavily treated mains drinking water,

flushing 30% of it straight down the toilet. Instead of reusing it, we send excess water into our sewers; instead of capturing it where it falls, we allow rainwater to flow off our roofs and drive into an overloaded drainage infrastructure.

Despite their position in CIRIA's SuDS Manual – widely acknowledged as the bible for designers and consulting engineers – at the top of the design hierarchy, rainwater harvesting and reuse systems, while a relatively simple technology and established for many years, have failed to become mainstream.

One barrier to progress has been the need for most rainwater harvesting systems to be designed with a second attenuation or storage tank to manage flood risk. Now, advances in smart instrumentation and telemetry are being harnessed, so that the storage space needed for flood control and water-saving can be combined in just one tank.

Leading technologies, beginning to be deployed in the UK, use weather prediction data to control the levels of rainwater in this single tank for both attenuation and reuse. When a storm is predicted, the water level in the tank is lowered in plenty of time to allow the spare capacity to be used as a defence against surface water flooding.

Such technologies can be deployed for commercial or public buildings and also at a single domestic property, street, or community level in housing developments. They have already helped numerous developments to secure top BREEAM sustainability ratings, particularly in London where they benefit from support in the London Plan and GLA SuDS guidance.

Advances in ‘smart’ instrumentation, telemetry and cloud-based management and monitoring systems extend the capabilities of intelligent rainwater reuse systems still further. A digital cloud-based system can provide a wealth of data on system performance in order to better plan maintenance and demonstrate water savings in real-time. Every business case for rainwater harvesting is different, and expert organisations can advise on feasibility, correct sizing and calculate the financial justifications.

These dual-purpose systems, that mitigate flooding and provide water for reuse at the same time, can make a real difference to future demand management in the UK.

It's time to think water neutral.

Adam Dean is business development manager water reuse at SDS

Getting into the groove of decking

From designing an outdoor play or dining area to a nature reserve or urban development, carefully planned landscaping – including decking – has a role to play. Laura Qualters from Marley discusses



Decking continues to be a popular way of adding an extra dimension to outdoor areas, from creating additional living spaces in the garden, through to boardwalk-style exteriors, or extra dining space at hospitality and leisure establishments.

Decking provides context for the building; not only affecting how it sits on the site and in the wider landscape, but also shaping visitors' impressions as they approach – especially for the first time.

And, for those keen to select materials which deliver increased environmental credentials, timber decking has the lowest embodied energy when compared to other hard landscaping materials. When sourced sustainably with full FSC & PEFC accreditation, it can effortlessly combine style and substance.

Grooved vs smooth

Part of providing a pleasant experience for users of all abilities is ensuring the



Decking provides context for the building; not only affecting how it sits on the site and in the wider landscape, but also shaping visitors' impressions



decking specified provides a consistent, level surface to move across, which might otherwise create a hazard and can make the experience uncomfortable.

When thinking about decking, many people picture the traditional grooved appearance, but smooth profiles are becoming increasingly popular. A smooth board offers a different feel and appearance to the deck when compared to the traditional look of a grooved board but also has many other benefits.

A smooth board with less abrasive grit can give a more comfortable surface for urban footwear, wheelchair users and pushchairs while still exceeding the slip resistance requirements of the Health and Safety guidelines.

Anti-slip

Traditional decking boards with a high level of grip can exacerbate trip hazards, especially at the boundary with a different surface where there's a transition in grip level. For the less able, that high level of grip continues to cause a problem across the deck.

Slip resistance in commercial decking is best achieved by using factory applied anti-slip strips. A board can feature two or three strips depending on the level of resistance required, three being suited to high-risk areas. Using a less abrasive grit for the inserts reduces any trip hazard while still achieving good levels of slip resistance.

As a further aid to accessibility and inclusivity, specifying anti-slip inserts in bright or contrasting colours helps to highlight changes in level or direction.

Decking is independently tested to confirm its slip resistance. The Health and Safety Executive's (HSE) preferred method is the pendulum test – described in BS 7976, parts 1 to 3 – which replicates the action of somebody's heel striking the surface and measures the dynamic coefficient of friction.

Regulations

One of the first points of reference when planning outdoor spaces and circulation routes is the guidance in national Building Regulations relating to access. Provisions apply whether the design relates to a new building or extending/altering an existing building.

Following the guidance in Approved Document M for England and Wales helps to achieve compliance with Building Regulations. Section 4 of the Building Standards technical handbook in Scotland, and Technical Booklet R in

Northern Ireland, also deal with access considerations.

Compliance with Building Regulations does not necessarily require strict adherence to the guidance contained in these documents. Alternative solutions are permissible, and the more complex the project, the more consultation with the local authority is recommended.

BS 8300 is the code of practice for designing accessible and inclusive buildings and Approved Document M is based on the guidance in this standard, though there are some differences.

The Equality Act 2010 should also be considered when designing and specifying outdoor spaces and areas of decking. The Act is broader in scope than national Building Regulations, so meeting regulatory requirements does not automatically mean compliance with the Equality Act.

Safety is another element of Building Regulations. Approved Document K in England details guidance for stairs and ramps; the requirement only applies to external stairs and ramps at a building's entrance. If not at an entrance, then only the requirements for access apply.

For other UK countries, guidance on safety can be found in Approved Document K in Wales, Section 4 in Scotland, and Technical Booklet H in Northern Ireland.

Low maintenance

When looking to specify a decking solution, many people are surprised to hear that timber decking is a low maintenance option. Modern timber decking boards, with the right preservative treatment from the outset, require very little maintenance.

Aside from a brush with a broom and an annual clean with a deck cleaning product to remove any grease or discolouration, they can be left to weather naturally with no need to re-treat.

The most important thing is to make sure products are pressure treated correctly in the first instance to get the best out of them through their lifespan. Default anticipated service life is usually around 15 years, but some specialist suppliers will treat to achieve a 30 year desired service life.

By choosing the right product through applying these considerations, architects can specify the ideal decking to achieve a stylish, safe and low risk space to transform a landscape.

Laura Qualters is national technical manager for Marley

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THE FUTURE OF TALL BUILDINGS

Designers of tall buildings sit at a crossroads – will such structures continue to be a major focus for investment in the difficult context that developers now face? What is the realistic case for widespread urban tall building development post-Covid, in a world struggling to tackle climate change?

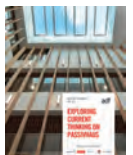


SUSTAINABILITY & WELLNESS IN COMMERCIAL BUILDINGS

The pandemic has left a question mark over the future of urban commercial environments. As a result, designing spaces which promote employee wellness as well as sustainability is now in the spotlight, to help clients bring staff back to workplaces and other commercial settings.

EXPLORING CURRENT THINKING ON PASSIVHAUS

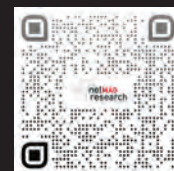
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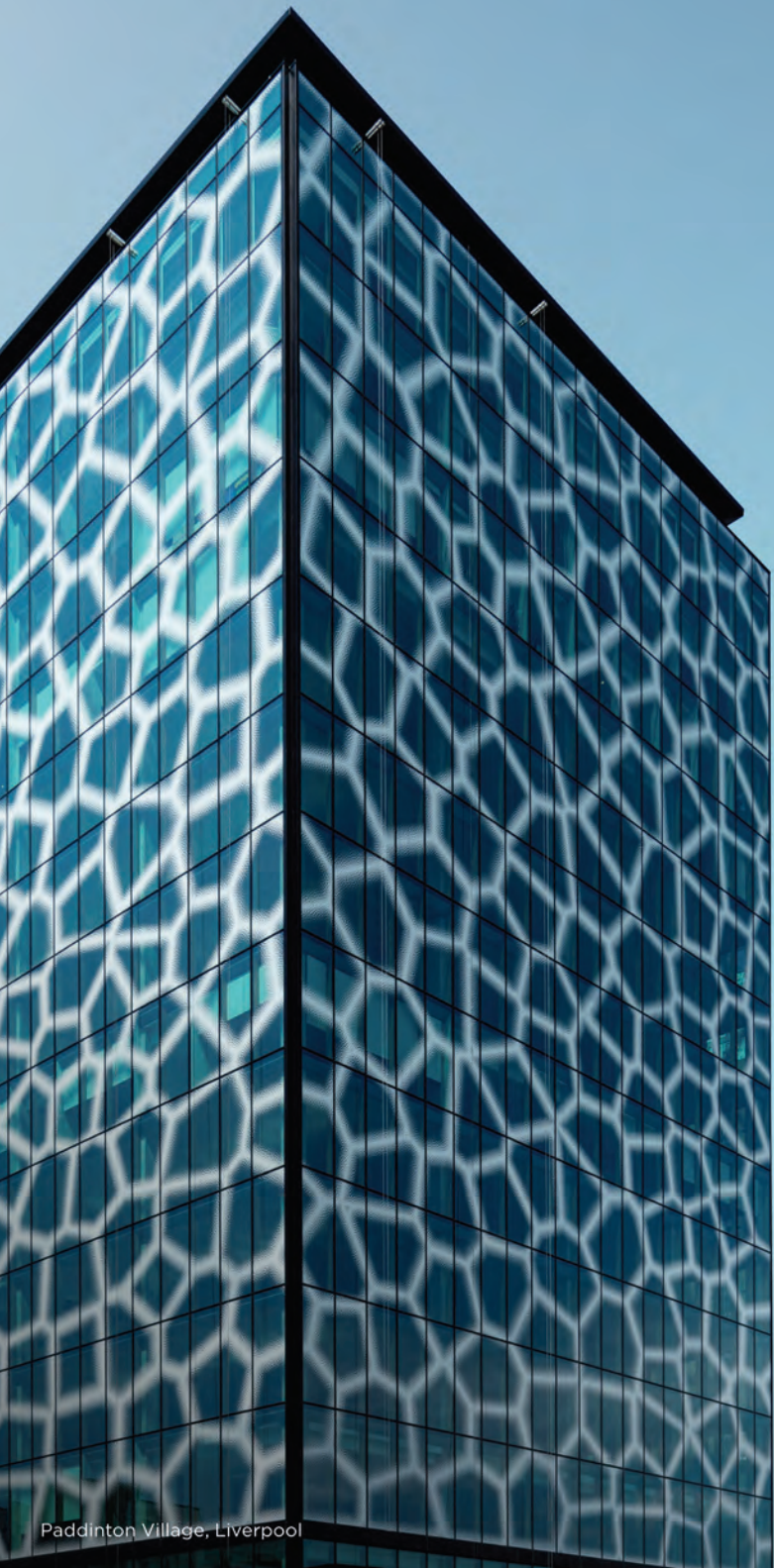


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