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On the cover

Hitra office, Iran, designed by
Hooman Balazadeh; Worldwide
winner of last year's Brick
Awards (2023 preview inside)

HS2 INTERCHANGE STATION, SOLIHULL

Arup explains its BREEAM Outstanding design for HS2's
new interchange project, which includes a 2.3 km people
mover link to Birmingham Airport

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FROM THE EDITOR



Resolving the challenge of delivering the Government's housebuilding and environmental promises goes beyond a dichotomy to being a "toxic interaction," according to Lord Moylan, who chairs its Built Environment Committee. Even worse, Defra and DLUH were "totally non-functional" in terms of working together on the issue.

Speaking to an audience of architects at a recent event staged by zinc supplier VMZinc in London, the Conservative Peer said that the Committee had explicitly addressed this conflict between aims to increase housing delivery and its commitment to protect habitats in its recent report. Far from preaching to the converted, he also castigated nutrient neutrality requirements for sites as potentially compromising development goals, and strongly hinted that a large part of his objections to such draconian targets were based on the fact that they originated from EU law that we are still subjected to, post-Brexit.

The Committee's recent report on the subject said "Both policies should be achievable in a mutually reinforcing way," however adding that "in practice, our inquiry has found that this has been hampered and sometimes completely blocked by lack of co-ordination in policy-making and haphazard and unbalanced implementation." Moylan pointed out that this crucial Election issue is even seeing a schism in the Lib Dems, with the 'Young Liberals' party faction rebelling against its own leadership's abandoning their 380,000 homes target.

In terms of the Tories' 300K housing target, (which had formerly been seen shuffling off the stage, but apparently remain as an 'aspiration'), the strongly pro-housebuilding Lord Moylan said that his Committee was proposing an approach to make the targets statutory, rather than just a nice aim. However he did not state what kind of numbers he was talking about.

Are Lord Moylan's comments, given his position running the Committee, a sign of a major Tory 'rebalancing' on the realities of its environmental aims, as the next General Election, with its likely promises of tax cuts, looms? Rishi Sunak's recent dilution of heat pump targets, attempting to reassure consumers they won't have to immediately pay to upgrade their heating systems, has shown him fall behind even Boris Johnson on eco aims.

We've seen the strange spectacle of Johnson trying to seize the higher environmental ground, based on his 'successes' i.e. COP26 in Glasgow, and the £5,000 heat pumps grant his Government introduced. Rishi has now raised this to £7,500, but also extended the ban on gas boilers until 2035, although he says that homeowners will not be forced to replace them. The Government has also told the industry it still plans to install 600,000 heat pumps per year by 2028 in a briefing paper to the industry. It's time to get real.

James Parker, Editor

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ON THE COVER...

Hitra Office, Iran, winner of Worldwide Award in the Brick Awards 2022.

For the full preview on the 2023 awards, go to page 28

INDUSTRY SURVEY

Construction professionals concerned about greenwashing, survey finds

Misleading or inaccurate sustainability claims by firms selling to the construction sector are a concern for industry professionals, according to a new report, while most respondents said they would pay more for products with verified claims for eco credentials.

An industry survey by Futurebuild and the Anti-Greenwash Charter of 430 professionals across the construction sector, 'Greenwashing: What's true, what's not, and does it matter?' found that 88% saw greenwashing as a "problem" currently. Architects made up the largest segment (11.6%), followed by academics, 'sustainability managers,' and engineers.

Half of the respondents said they had been in "face to face interactions with someone telling them a more positive version of events than was verifiable," in terms of the eco performance claims made for products or services.

The report said that sustainability

messages were often "more generous than companies were willing to commit to," and one verbatim quote from respondents said that manufacturers were not the only source of questionable claims: "'Net zero carbon' is the biggest claim we see for developers at the moment, and when their embodied carbon rates are published, they are often higher than LETI/UKGBC/GLA targets." The respondents said that the least trusted 'eco' marketing phrases were 'carbon neutral' and 'environmentally friendly.'

The report's authors said the industry needed a "universal term" to enable informed decisions, so they were "not open to interpretation and misuse." Currently, according to the report, with "no nationally agreed standards of vocabulary," professionals were "relying on individual interpretation, which can vary wildly."

The Futurebuild/Anti-Greenwash Charter report said there could be "huge

consequences for a brand's reputation" of engaging in greenwash, although 56% of respondents admitted they did not have a "verified published green claims policy" in their organisation. 57% had however become "more rigorous in asking for evidence" from suppliers," and 49% were using Environmental Product Declarations to that end.

A resounding 72% of respondents said they'd pay more for a product which was from a company "investing in providing greater evidence for sustainable claims." The Anti-Greenwash Charter is a leading body providing accountability and transparency on claims for eco performance and criteria such as embodied carbon.

Martin Hurn, event director at Futurebuild, commented on the findings: "Green claims must be substantiated by evidence," added however that "we understand the complexities businesses face in marketing their products."

EDUCATION

Planning granted for Holmes Miller Passivhaus education campus

Planning permission has been granted for a 'community campus' in Faifley, West Dunbartonshire, designed to Passivhaus standards by London-based practice Holmes Miller. It will bring together two primary schools, a nursery and ASN provision with a host of community facilities, including a library.

As well as Passivhaus, the campus is also designed to the Scottish Government's Net Zero Public Sector Buildings Standard. It will require little energy for space heating or cooling, minimising emissions and bills.

The new facility for West Dunbartonshire Council, which will be delivered through hub West Scotland and which received part-funding from the

Scottish Government's Learning Estate Improvement Programme, will improve services for local people by co-locating education and community facilities under one roof.

It will replace the existing St Josephs and Edinbarnet primary schools, Auchnacraig and Lennox early learning and childcare centres and the Skypoint community centre with modern, accessible facilities that benefit from significantly reduced maintenance and running costs, as well as low carbon emissions.

The sports hall and all-weather outdoor pitch will be available out-of-hours to community sports groups, and the flexible design will allow the school's dining space to double as a drama or



dance facility for local groups.

Community allotments and an 'arrival plaza' will feature in the grounds of the campus, along with a forest school area and biodiverse garden.

Designs and colour palettes for the facility take inspiration from the nearby Cochno Stone, which features Bronze Age carvings. The 'cup and ring' pattern found on the stone is referenced in both the building's interior and exterior.



EDUCATION

BDP-designed relocation of Bristol Dental School completes

Global multidisciplinary design practice BDP's design for the Dental School at the University of Bristol has completed. The architectural practice also assisted in identifying a suitable new site for the school, with contractor Kier Construction delivering the project.

The £36m Dental School, which was previously based at Bristol Dental Hospital, has now moved to 1 Trinity Quay, a former office building in the heart of Bristol, enabling the university to increase student places by around 25%.

Sustainability is "at the heart of the project," said BDP. The university "prioritised the re-use and retrofit of this existing building over new build,

reducing the upfront carbon impact of construction." Traditional, open plan office space featuring rows of workstations have been transformed into a state-of-the-art teaching and training facility for use by the students, staff and community – who will have access to the free treatment services.

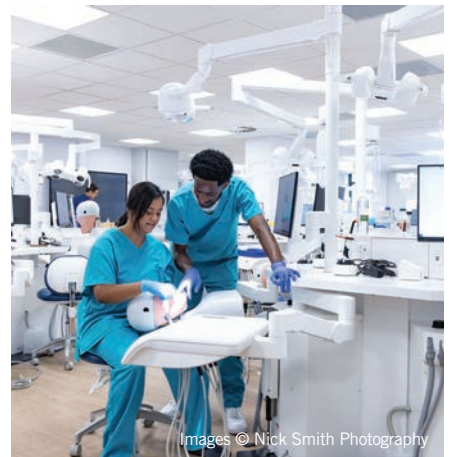
The design features an octagonal shaped space, home to a series of dental treatment bays and teaching spaces, with views out onto the surrounding waterfront. Specially designed rooms for neurodivergent students offer a secluded, soundproofed space for quiet study.

The university is also encouraging "green and active travel options" to and from the

building, including cycling, walking and use of public transport, with accessible parking spaces. Around 50 basement car parking spaces have been replaced with 200 secure cycle spaces for students and staff in the basement, with shower and changing facilities provided at first floor level, to promote the use of more sustainable transport options.

Many of the carpet, ceiling tiles and raised access floors have been reused as part of the design approach.

Architects and interior designers from BDP worked as part of a multidisciplinary team including building services engineers and structural and civil engineers appointed by the university.





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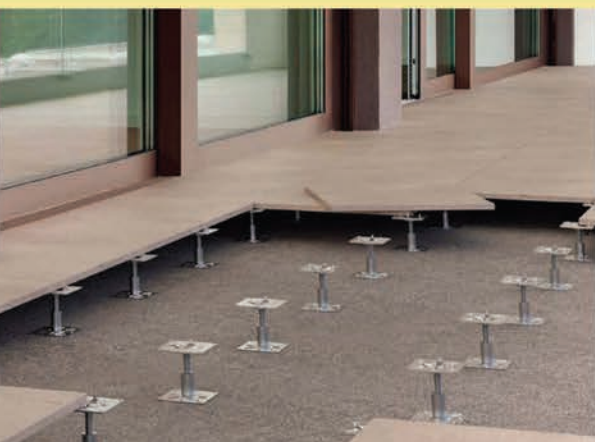
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ANNOUNCEMENTS

Senior promotions and seven appointments as Aitken Turnbull ‘consolidates sustainability push’

Aitken Turnbull, one of Scotland’s oldest architectural practices with studios in Edinburgh, Galashiels and Dumfries has made two senior promotions and hired seven new studio staff, as the firm further strengthens its teams across its sites.

The changes are part of a continuing growth strategy as the firm “witnesses a surge in demand to incorporate design innovation into both new build and refurbishment projects across Scotland creating better spaces for people to live and work,” commented the practice.

Laura McCrosson, practice manager (pictured), joined Aitken Turnbull in 2012 in an administrative role. She becomes the first non-architectural team member to be promoted to associate, recognising the crucial role she brought developing the management and support services side of the business. Also promoted is current



associate David Smart (pictured) who leads the Edinburgh Studio. Smart, who joined the firm in 2017, becomes associate director at the practice. He leads the growing Edinburgh Studio as well as heading the practice’s major projects.

Aitken Turnbull has also hired key studio staff for its Edinburgh and Galashiels offices. In Edinburgh, Gavin Fallen joins as senior architectural designer, Antonia



Iakovidou and Theodore Dragnea are newly appointed Part I architectural assistants, Anna Buckenham is the new administrative support assistant, and Niamh Flett the new junior interior designer working between Edinburgh and Galashiels studios.

The Borders studio has also hired Dominic Skinner as Part I architectural assistant and Harry Taylor as Part II architectural assistant.

EDUCATION

‘T.H.E’ new addition to New College Durham by Ryder Architecture combines technical and higher education

Work on a two-storey collaborative and integrated learning space at New College Durham designed by Ryder Architecture is now complete. Titled T.H.E. Hub (Technical and Higher Education Hub), the extension will provide the college with a specialist building to deliver higher and technical level skills qualifications.

The £8.9m state-of-the-art education facility was designed by Ryder Architecture and delivered by County Durham-headquartered contractor, Esh Construction.

Located at the college’s Framwellgate Moor Campus, T.H.E Hub features 23 new teaching spaces including an



immersive suite, an early years foundation stage nursery, a sensory room, a hospital ward, a dental suite, an E-Sports arena, cyber security facilities, specialist I.T. classrooms and science laboratories. In addition, the building has several collaborative and breakout spaces for students to work and socialise in a modern environment.

The development was procured via the Procure Partnerships Framework and delivered in partnership with Turner & Townsend, Ryder Architecture, Jasper Kerr Consulting Engineers, TGA Consulting Engineers and Howarth Litchfield.

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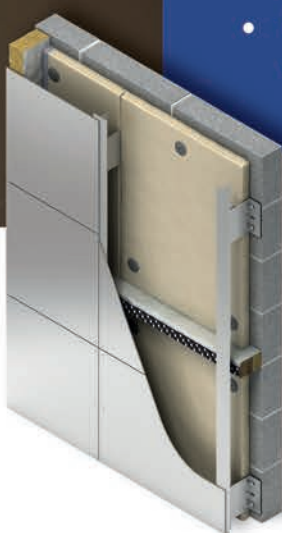
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PRACTICE PROFILE



Ackroyd Lowrie

In founding their own practice, Oliver Lowrie and Jon Ackroyd were able to pursue their passion for future cities, while applying lessons learned in their shared background as sustainability specialists. They tell *ADF's* Laura Shadwell what drives them, and why the practice puts tech at the top of the agenda

Both having worked previously at Architype, a leading practice specialising in sustainable and Passivhaus design, Oliver Lowrie and Jon Ackroyd founded Ackroyd Lowrie in 2016 in a quest to apply the principles of low energy design to city-scale projects. This has led to a wide-ranging portfolio across many sectors, including masterplanning.

"I think that the scale of climate emergency that we're engaging with is so big that it's an oversimplification to look at one building at a time," asserts Lowrie, explaining their rationale. Both architects believe that the industry needs to be transformed in order to rise to the challenge, and that architects must harness innovative technologies such as AI and VR – or risk becoming obsolete in the wake of their emergence.

'Being the change'

Ackroyd Lowrie specialises in urban regeneration and masterplanning, and aims to create residential, commercial and educational developments that "put people at the heart of the design process." The practice, which has grown fairly organically, was founded on the principle that it would "shape the cities of the future." Now employing around 30 people, its design ethos centres around harnessing technology, in the pursuit of great design with sustainability at its core.

As well as residential-led urban regeneration projects, the team has a specialism in designing film and photographic studios. Their Alva Coachworks project, the creative re-use of a Victorian tram shed into a high end film studio, was Highly Commended in the AJ Retrofit Awards.

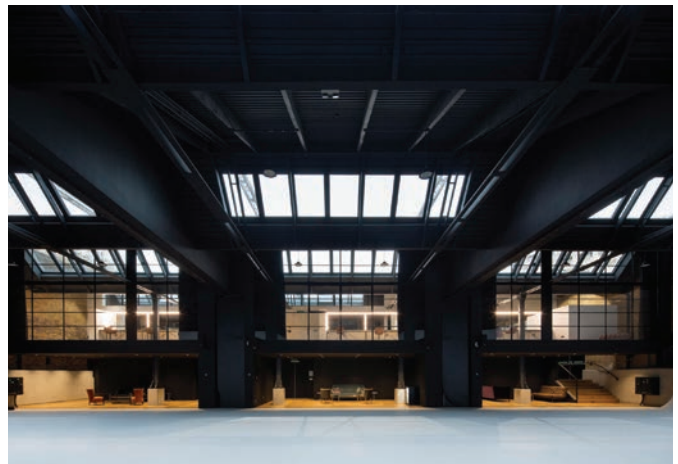
The founders believe that cross-sector collaboration is crucial in shaping future cities, and have been hosting events where politicians, planners, consultants and developers can come together to form consensus on policy. Known as 'The Breakfast Club Briefings,' these are designed to place Ackroyd Lowrie at the centre of thinking around shaping the future of cities, as well as raising the profile of the practice among the politicians and planners who have the ability to create this change.

Key decision makers and those with direct links to effecting change are often in attendance; recently including Brandon Lewis MP, the former Lord Chancellor and Minister for Housing and Planning, as well as senior individuals from councils and other bodies. This is an example in action of Jon and Oliver's philosophy

that if you want to change the system on a macro level (rather than just one building at a time), then it is crucial that there is a dialogue between leaders, politicians, planners and developers. Ackroyd adds, "We need to be the change we want to see, and try to reach out and influence key people. The Breakfast Club Briefings provide the platform to achieve this and move the conversation forward into action."

Their passion for cities, and identifying how to create routes to what they see as a sustainable future, has been a real driving force for the practice's specialism in sustainable retrofit, including integrating landscape design. "We're interested in greening cities by working with lots of different landscape schemes to increase biodiversity and improve projects," explains Ackroyd.

The firm has also placed focus on education within the practice – upskilling their team, and developing designers of the future. Its initiative, the 'AL Academy' – inspired by the academy Sir Alex Ferguson built at Manchester United – aims to "tackle the challenges of employing students out of university, as well as introducing students from the East London Boroughs surrounding our studio in Tower Hamlets, to a career in architecture and tackling the challenges they face," explains Lowrie.



ALVA COACHWORKS

Creative reuse of a Victorian tram shed into a high end film studio

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YONDERLAND

Adaptive reuse in Walthamstow provides a dynamic workspace with a climbing wall

Architypal lessons

Architype proved to be a great foundation for Jon and Oliver in forming their new practice. While at their previous firm, Ackroyd was heavily involved with a lot of research work as part of the Government-funded research initiative Innovate UK (formerly the Technology Strategy Board). As part of the scheme, he did post-occupancy evaluation of a recently completed building to test how it actually performed in use. He says it proved a highly instructive process, and informed much of Ackroyd Lowrie's philosophy on design and technology.

Reflecting on their time at Architype, coupled with this research, Jon and Oliver got to thinking that while it's all very well to reveal problems once a building is in use – some remedial measures are possible at that stage – certain fundamentals are very hard to fix, and the capital has been spent.

So, to address the question of how to prototype and test buildings before they are built and those chances to get it right are missed, they turned to employing Virtual Reality (VR) which replicates the Building Information Modelling (BIM) model used on projects, so clients could immerse themselves in the final design. Ackroyd states that "this type of engagement has been really successful, particularly with end user clients, and 'multi-headed' user clients, such as the NHS."

Putting technology to the test

A successful example of a VR-assisted design now in operation is a dialysis ward that Ackroyd Lowrie designed at Mile End Hospital in east London. In the project to extend and reconfigure the Bancroft Unit – created as the first 'self-administering' dialysis ward in the UK, staff wanted to understand how they would be best able to work around the patients, such as factors like bed spacing. Ackroyd Lowrie set up a scenario using multiple VR headsets in the existing facility that enabled staff to visualise the adapted space in a really effective way.

Creating buildings that don't require fundamental change is a sustainable goal in itself. "The most unsustainable thing you can do is to build something wrong, and then have to go back and change it," says Lowrie. That was another legacy from what we had learned at Architype – the importance of trying to get buildings right first time."

Another interesting project that Ackroyd Lowrie has recently been involved with is Yonder, where a creative retrofit of a warehouse in Walthamstow has resulted in a modern and dynamic hub to work, exercise, eat and relax. Yonder combines a series of co-working spaces including flexible desks, maker's workshops and R&D prototyping, with indoor climbing, and a central café that is used day and night by the local community.

The adaptive reuse design follows an amphitheatre layout, and was modelled extensively in VR to provide interesting sightlines throughout the triple height space. A low energy ventilation system served a new water cooling and heat recovery need; it was developed to specifically address the climate conditions needed for climbers as well as remove the chalk dust they use from the air. Yonder has been hailed as a new benchmark for its use of space, light and climate control, while also creating over 100 jobs.

Recognising the benefits that technology can bring to building design, Ackroyd Lowrie is keen to grasp the challenge of grappling with the AI technologies that are coming onto the market. While these are both "fascinating and terrifying," say the duo, they believe it's vital for architects to engage with them. "We've got a 'hackathon' happening over the next couple of months, where we're testing different AI tools, seeing how they can work within our workflow, to optimise performance and improve sustainable design," adds Ackroyd.



VR ON THE WARD FLOOR

VR was used at Mile End Hospital to help engage staff and optimise a ward design

AI & diversity for designing future cities

Along with the use of AI to "leapfrog and create efficiencies for better cities," Ackroyd Lowrie as a firm is also a big advocate of encouraging and embracing greater diversity within its staff to benefit the practice's work. Jon and Oliver agree that if you're going to design the cities of the future appropriately – and make urban environments that are suitable for everyone that uses them – you need to have a deeper understanding of the people that are going to live in them. Ackroyd admits candidly, "If you're all from a white middle class background, that isn't going to be a true representation of everyone that will be living there."

The pair say that the end goal – assembling the 'perfect' mix of designers together within the practice – is the "magic sauce" for designing future cities. They see it as the fundamental ingredient to designing cityscapes that accurately reflects communities. ■



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VIEW POINT



Dr Victoria Hutchinson from AtkinsRealis' environmental practice explores how impact assessments can help unlock value as well as greater investment in projects – in a more favourable ESG context – and illustrates what this looks like

Former Prime Minister Boris Johnson famously blamed 'newt counting' for delays in housebuilding projects – a not-so-subtle dig at the role of environmental services.

That was the summer of 2020, and as we know, so much has changed politically, economically and environmentally since then – not least how we deliver environmental services. The tools, insights and expertise we bring to developments is a far cry from counting newts – although the protection of our endangered species remains a priority.

The environment practice of today takes in the entire spectrum of the built environment. From design to delivery, ecological to economic expertise, social science to data science, we bring our integrated, systems thinking approach to bear from the earliest stages of projects all the way through to end-of-life.

Part of the reason for this is that globally we face more flooding, more drought, more extreme weather conditions: our future is fraught with climatic risks. Planning is becoming harder – and yet there is growing pressure from investors, stakeholders and citizens to deliver a positive impact on our environment, our ecology and our places.

Reducing the environmental barriers to development

To meet the scale of the challenge, we need to change. The environment used to be seen as a barrier that got in the way of development. Proposals would be submitted, surveys and impact assessments carried out, and breath held that the results wouldn't hold up the project, or send the designs back to be reworked.

But that's no longer an appropriate approach. We recognise that nature,

So much has changed politically, economically and environmentally since 2020, and the tools and expertise we bring to developments is a far cry from 'counting newts'

people and communities need to be at the heart of decision-making, and at the front-end of planning. We face a daunting range of interconnected challenges – our solutions cannot simply reduce carbon emissions, but build thriving communities, empower inclusive growth, and champion biodiversity net gain. Only by creating truly holistic solutions can we build infrastructure fit for the future.

Thankfully, that reality is being recognised by clients. Investment is increasingly tied to the much-needed task of regional rebalancing, developing the transport and employment foundations for long-lasting, sustainable growth. Stakeholders now expect environmental data, insight and answers to the most pressing questions of our time, and investors want clear business cases that show an understanding and mitigation of risk and to understand how their investments meet the demands of the ESG agenda.

What are the challenges?

Lack of access to funding continues to be a challenge. A lot of green finance is available, but obtaining it demands innovative ways of demonstrating how we can extract clear benefits, to our communities, our places and our environment.



Image by Steph Riddell (Pixabay)

Meanwhile, our changing climate is exacerbating what were already a huge range of risks. Once-in-a-century events are now happening regularly, and our often-ageing infrastructure is ill-equipped. To protect communities, it's essential we start embedding climate change resilience into the design and planning of our major infrastructure projects. Yet our investments face an uncertain landscape.

That uncertainty remains the biggest barrier to change. The UK's legal deadline for net zero is getting closer, but there is often not yet a clear pathway to deliver on it. How can we plan when we don't know what the regulatory demands, or the market economics of carbon and biodiversity, will look like a few years from now?

That's why the approach taken to environmental services needs to reflect the new world we live in, migrating from a 'tunnel vision' focus on financial capital to a wider lens that captures social, natural, and many other forms of capital.

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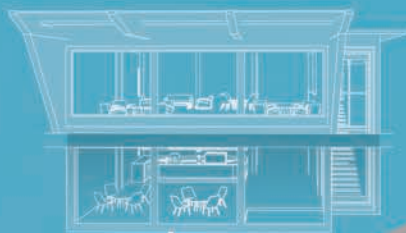
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Once we really understand value, through recognising co-benefits and trade-offs, is when our solutions will finally start to become transformational. Data is at the forefront of the way we're changing. Where there used to be a lack of data, inconsistency in reporting and contradictions, we now have access to digital technology that can quickly, efficiently and cost-effectively assemble high-quality data for analysis.

Moreover, that process is enhanced by the huge range of innovations that are streamlining our processes for environmentally integrated design and construction. Not only is that improving our decision-making, but it's revolutionising our consent process too – challenging stubborn stereotypes of stakeholder engagement characterised by inertia.

The human touch

People, however, are still primary. Data and technology alone won't magically solve our problems. Instead, they provide insight and intelligence to enhance our decision-making. To transform 'business as usual,' we need multidisciplinary expertise to cut across traditional silos, and deliver cutting edge, connected solutions.

We see this approach in operation across a number of areas, for example, in decarbonising heritage buildings. As some 80% of the buildings that exist today will make up the built environment by 2050, there is a real urgency in addressing the challenge that represents.

Among that existing building stock are many Grade II listed buildings for instance where we need to overcome the challenge of introducing decarbonisation measures such as ventilation, heating and cooling mitigation, to highly significant 18th century rooms without altering their appearance – while maintaining significant fabric, both visible and hidden, intact.

Transport networks clearly have a huge impact on the environment, and the rail industry is a great example of where we have brought our environmental teams in early in the process to steer design to minimise environmental and social risk and realise opportunity.

By using digital tools such as our state-of-the-art Pangea environmental assessment manager – that combines processes, digital technology, information management and different behaviours applied throughout delivery – we are able to provide a



Image by Anthony Ashley (Pixabay)

Environmental services are at the forefront of implementing innovation, changing the way we interact with our environment and ensuring communities impacted by development derive the greatest social value outcomes from the project

comparative assessment of proposed route options to take.

Of course, one of the most significant areas where environmental services can make an impact earlier in projects is through the planning process.

The planner of today has a range of new tools including better data which is transforming understanding of our ecosystems and streamlining design.

By providing line of sight both to wider trends and local specifics, data is unlocking a new level of strategic insight. And by benchmarking high quality data from the outset, data is improving and accelerating project processes.

Tried & tested approach

Environmental impact can now be more accurately understood – and sometimes avoided even before a pen is put to virtual paper – while also tracked and delivered throughout a project. Working with Edinburgh City Council, for example, AtkinsRealis has provided a blueprint to other local authorities of the value of a data-driven approach. By mapping the city's blue-green assets using

data, to develop a strategic plan for future development, data offers a way to cut through the complexity.

Environmental services are at the forefront of implementing innovation, changing the way we interact with our environment and ensuring communities impacted by development derive the greatest social value outcomes from the project.

So whether we're developing green city action plans, assessing flood risk, or remediating brownfield sites, we're creating nature positive solutions that transform communities, enable sustainable infrastructure and unlock value.

It's no longer enough to be reactive; instead we must be proactive, engaging early to make better decisions, and maximise the long-term possibilities. As an example, environmental services have reimaged our role within the development process, and today play an integral part in our wider mission to engineer a better future for our planet, and its people.

Dr Victoria Hutchinson is director at AtkinsRealis' environment practice

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COMMENT

How do we close the energy performance gap?

With a UK housing stock that doesn't fare well in comparison to other European countries on energy efficiency, what is the solution to the UK's thermal failings? Simon Blackham from Recticel Insulation explains how the industry is playing catch up

Domestic energy use, which is partly driven by poorly insulated homes, remains a significant contributor to greenhouse gas emissions. Properties not living up to design expectations is a factor in UK homes stock falling short in terms of energy standards. The resulting Performance Gap could provide a challenge to the Government's 2050 net zero pledge, particularly as a 2021 National Housing Federation report revealed poor insulation was a contributor to England's homes producing more carbon emissions each year than was emitted by all cars in the country.

A failure to maintain consistent best building practices at crucial stages of the construction process remains an industry concern. The

'swapping out' of specified products mid-construction, for example, not only increases the risk of a costly retrofit requirement to bring a property in line with regulation energy standards, it could also compromise a building's structural integrity and the occupants' safety. A poorly conceived building envelope is the main cause of defects such as condensation and mould formation, which poses a health risk to elderly and child occupants with weaker lungs and vulnerable immune systems.

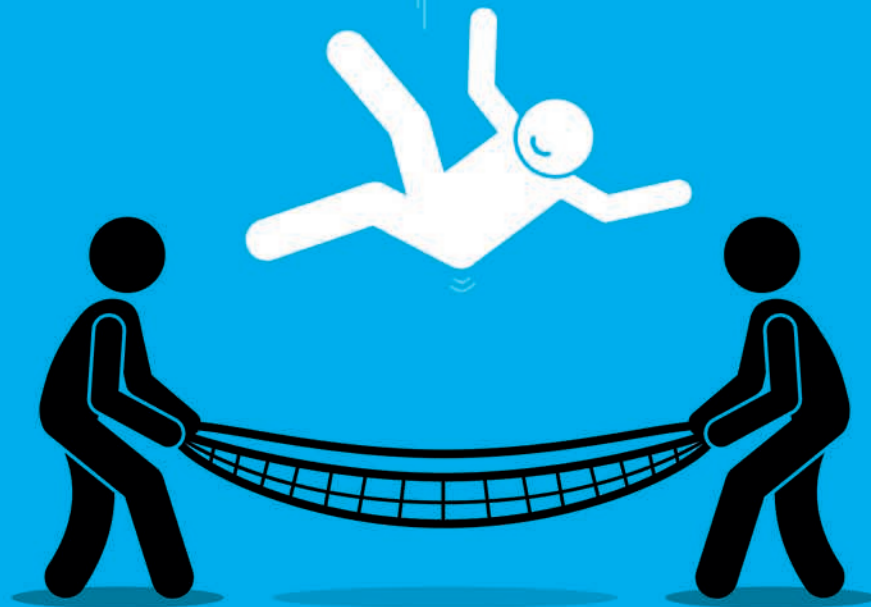
Platforms such as Building Information Modelling (BIM) may help eradicate the negative impact of product substitution. The technology adds a much-needed layer of transparency to the build process and chimes with Dame Judith Hackitt's call for a 'Golden



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Thread' of information as part of her post-Grenfell report into the fire safety of buildings.

Cracking the Code to informed specification

Dame Judith Hackitt's much-lauded report has also led to the development of The Code for Construction Product Information (CCPI), which is being introduced to help manufacturers provide transparent and accessible information on what their products are designed to achieve and how they are used safely. Initiated by the Construction Products Association's Marketing Integrity Group following an industry-wide consultation, the Code is designed to ensure building product information is clear, accurate, current, accessible and unambiguous.

It is hoped that by applying these well-defined tenets to the way data is set out, building professionals will be able to make better, more informed decisions when it comes to the product specification process. In turn, homeowners can have peace of mind that their buildings are constructed to higher standards, with products that have correct information and are being used in an appropriate way.

The Code could also have a key role to play in supporting the next generation of construction workers. A report by the Construction Skills Network (CSN) estimated the UK construction industry needs to recruit an additional 217,000 employees by 2025 in order to meet the country's building demands. The skills shortfall, which has blighted the building sector for a number of years, has been heightened by a post-Brexit exodus of EU workers. This, along with the global building materials shortage, threatens to jeopardise the Government's pledge to build 300,000 homes per year to solve the country's property crisis.

A new workforce takes time to fully acquire the skills and experience gained by seasoned colleagues. Therefore, additional support provided by initiatives such as The Code for Construction Product Information, which make clear a product's intended use and outcomes, can only bolster a new recruit's confidence in terms

of the specification, installation and decision-making process. Ideally, the far-reaching benefit of such action is an improvement in building standards while a new generation of construction workers learns their trade.

Supply chain collaboration – the key to achieving as-designed building performance

Aside from improving the way their product data is presented, manufacturers can play a significant role in helping educate the next generation of construction workers. For example, our technical team will be able to assist a contractor or architect and advise on their needs to guarantee their building project meets performance expectations.

We also have a dedicated training hub to educate a new generation of roofing specialists in respect of best flat roofing practice. The Gradient Training Centre, based at our manufacturing HQ in Burntwood, Staffordshire, uses a range of Gradient flat roofing solutions to instil attendees with the highest standards of flat roof installation and safety.

Furthermore, we have produced a series of RIBA-approved CPDs which are designed for all building professionals to stay up-to-date and compliant with Building Regulations requirements. This has particular relevance, with Part L of the Building Regulations – which relates to insulation – undergoing its biggest series of changes, working its way towards more changes with the Future Homes Standard.

If 'built as intended' is to become a phrase more readily applied to our future housing stock, each element of the building supply chain must support training programmes to increase the skills of our current and future workforce. With education being key to improved building standards, then CCPI could prove to be an effective spin-off from the Golden Thread.

Simon Blackham is senior technical manager at Recticel Insulation

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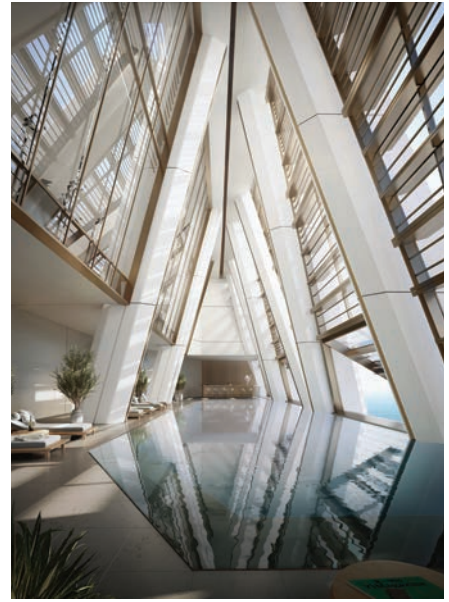
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1 NANJING ROAD, CHINA FOSTER + PARTNERS

1 Nanjing Road is Foster + Partners' first project in Qingdao, a major seaport and financial centre in the eastern Shandong Province of China. Located in the city's southern district, the mixed-use development aspires to three-star Chinese green building certification, as well as LEED V4 and WELL V2.

A fully pedestrianised public realm connects the tower with its surroundings and the local waterfront. A plaza, art gallery and landscaped garden, on the east side of the site, draw in people who are exiting the nearby subway station. At the base of the tower, the "human-scaled" design of the retail podium has been inspired by local rock formations.

The office lobby is located on the second floor of the tower and directly connects with two adjacent retail buildings via external sky bridges. The lobby is surrounded by a series of shaded terraces, which overlook the public realm below. This level of the tower acts as an additional public space for the city and activates the upper levels of the building.

Offices are split into low and high zones, with views of a nearby park and the sea. All of the office floors have operable windows for natural ventilation and include double-height spaces on the south side of the floorplate, "enhancing workplace amenities and future flexibility," said Fosters.

Above the offices, a three-storey clubhouse provides a range of facilities for workers, residents and club members. The clubhouse includes areas for relaxation and events, a triple-height space with a west facing infinity pool, private dining rooms and a bar that offers unparalleled views of the city at night.

The highest levels of the tower contain 105 luxury apartments, with cantilevered terraces and fully glazed corners that offer 15-metre-wide panoramic views out to sea.

W MACAU - STUDIO CITY, CHINA ZAHA HADID ARCHITECTS (ZHA)

One of two new hotels to open within Phase Two of the Studio City Resort by Zaha Hadid Architects (ZHA), W Macau incorporates 557 hotel rooms and suites over 40 floors together with cafes, restaurants, pool, spa, gym and recording studio for guests.

Located in the Cotai district of Macau, the “Hollywood-inspired” Studio City resort has welcomed guests and visitors to the city since 2015. Appointed in 2017 to expand the resort, ZHA designed Studio City Phase Two with new leisure, entertainment and hospitality facilities including one of Asia’s largest indoor water parks, and extensive meeting spaces. Studio City Phase Two’s design is informed by the existing resort’s “cinematic references with a contemporary reinterpretation of the rich detailing, bold geometries and intricate craftsmanship of the Art Deco period,” said the architects.

Composed of three different gradations of glass with external fins that delineate the verticality of the hotel towers, the insulated glazing units and shading fins reduce solar heat gain and glare while maintaining thermal comfort. Winner of the BREEAM Asia Awards 2021, Studio City Phase Two’s high-performance building envelope together with new “high-efficiency services” will reduce energy demand throughout the resort.



Photos by Virgile Simon Bertrand



SUN COSMO RESIDENCE DA NANG, VIETNAM AEDAS

Designed by international architectural firm Aedas’ principal Quan Pham, Sun Cosmo Residence Da Nang is a high-end residential development located along the Han River, offering “breathtaking” views of Vietnam.

Comprising multiple plots, Sun Cosmo Residence features high-rise condominiums, shop villas, and shop houses that span across the riverside. The development is divided into two phases, with the first phase consisting of The Panoma comprising two towers, Panoma 1 and Panoma 2, and plans for the development of a third plot in the next phase.

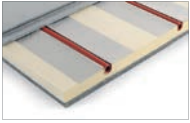
Inspired by the local culture and crafts of Da Nang, the development’s architecture draws from the Cam Ne traditional handcraft sedge mat-making village. “Blending design elements from the traditional crafting with the desire to create a new and unique space is represented in the architecture,” said the architects.

The design of Hoi An lanterns is incorporated into the facade from the podium to the crown in the form of terracotta materials and traditional Vietnamese patterns. Sun Cosmo Residence is ‘an ideal place for those seeking a luxurious living experience in the city,’ said Aedas.

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01634 296677 www.collecta.co.uk/cpdwebinars

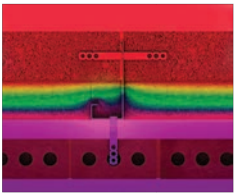
WASTEWATER TREATMENT CPD LAUNCHED BY GRAF UK



A CPD that explains the issues around wastewater treatment and advises on the options available has been launched by Graf UK. The 50-minute presentation delivers a multitude of "Wastewater wisdom", ranging from the fundamentals to the latest regulations and issues, via a user-friendly mix of "live" presentation and videos. As well as providing guidance for calculating sewage treatment system sizes depending on the population and type of building, the CPD also explains processes including disinfection and carbon dosing.

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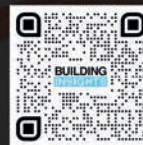
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08 November
Royal Lancaster Hotel, London



Rewarding sustainability at the Brick Awards 2023



2022 Public Award – The Alder Centre, Liverpool

This year's Brick Awards continues the organisers' key focus on sustainability, with the Sustainability Award again featuring, following its introduction in 2022. The awards, which are organised by the Brick Development Association will be held at a ceremony at the Royal Lancaster Hotel, London on 8 November, and celebrate the best examples of clay brick in the built environment.

The Sustainability Award reflects the serious intentions of British brick manufacturers to create a greener and more eco-friendly future and highlights the positive and pro-active sustainable initiatives which are now taking place within the industry. The award, which

is sponsored by leading UK independent brickmaker Michelmersh, will be judged by a specialist panel.

The award is open to low or zero carbon buildings or built projects in the UK, which are wholly or mainly built of clay brick, and which highlight innovative capabilities and achievements across the entire project, including: design, build (including fabrication, assembly or construction); operation of the building, and impact on the local community or environment. Projects must have been completed within the last two years.

Sustainable shortlist

The Sustainability Award shortlist is notable for its geographical spread, from London and the south to the midlands, the north and Scotland. The shortlisted projects are: Ceangal House, Glasgow; Dovehouse Court Almshouses, Cambridge; Globe Point, Leeds; Priddys Hard Phase 2, Gosport; Red Kite View, Leeds; Repton Gardens, London; and Shrewsbury Flaxmill Maltings.

All these projects celebrate the timeless elegance and sustainable strength of clay bricks in the world of construction. Clay bricks stand out as a symbol of enduring strength and timeless elegance. As illustrated by this year's awards shortlist, the Brick Development Association proudly advocates the use of clay bricks in construction because their array of benefits make them an ideal choice for any project.

Clay bricks offer exceptional structural integrity, providing a robust foundation for buildings and ensuring durability over time. Their thermal mass properties regulate indoor temperature, reducing



2022 Supreme Award – Radley College Chapel extension



Hitra Office, Iran, winner of 2022 Worldwide Award



2022 Refurbishment Award – Houlton School, Rugby

energy consumption and contributing to a more sustainable environment. Moreover, clay bricks are much lighter than concrete bricks, which means that they can be transported in a more environmentally friendly way, saving on fuel and road use and therefore reducing their overall carbon footprint. They also tend to be made locally, unlike concrete bricks, a factor that helps strengthen the local economy. This makes them truly sustainable on so many levels.

Beyond functionality, clay bricks bring strong aesthetic appeal to architectural designs with their natural colour variations and textures. This combination of strength and beauty has made clay bricks a favourite among architects, developers, and homeowners alike. From their durability and design versatility to their eco-friendly attributes, clay bricks continue to pave the way to a sustainable as well as visually captivating built environment.

There's something incredibly appealing about 'good old British brick.' With its solidity, longevity, sustainability, beauty and familiarity – not to mention its wide regional colour variations – there's so much to attract self-builders and renovators alike. When it comes to building or improving your home, whether a new build, an extension or a conservation project, nothing can ever beat British brick. At the same time, clay bricks come in a wonderful variety of colours and textures – and they become more beautiful as they age, unlike concrete bricks which fade, preventing architects and builders creating truly

memorable buildings.

If the economic case for clay bricks is persuasive, so too is the sustainability and ecological argument. Of all building and housing materials, bricks are one of the most environmentally friendly. All major British brick manufacturers take their sustainability responsibilities extremely seriously, recycling energy and waste wherever possible and supporting the circular economy.

It is important to celebrate best practice in the use of brick in the built environment, and to emphasise how investment in production processes currently being developed the UK's clay brick industry, such as renewable energy, carbon capture, biomass and hydrogen fuelling, will see further carbon reductions in clay brick production in the future.

The Brick Awards ceremony will take place on November 8 at the Royal Lancaster Hotel in London. It will be hosted by popular TV personality and architect George Clarke, best known for his work on the Channel 4 programmes *The Home Show*, *The Restoration Man*, *George Clarke's Old House New Home*, and *George Clarke's Amazing Spaces*.

For more information on the awards, please call 020 7323 7034 or visit the Brick Development Association website, (www.brick.org.uk). To find out more about the awards night and how you can buy tickets, email georgespreckley@brick.org.uk

Article supplied by the BDA

If the economic case for clay bricks is persuasive, so too is the sustainability and ecological argument



2022 Innovation Award winner – Battersea Power Station

15 – 16 November
Olympia, London



London Build returns to Olympia for much-anticipated 2023 edition



The wait is nearly over for the much anticipated and award-winning construction show, London Build, which opens its doors to its most exciting edition yet in November.

London Build is the ultimate platform to connect with senior-level decision-makers, buyers and influencers from the UK's entire built environment. Discover how you can get involved in major construction projects across the country, learn of the latest innovation and win business as you network with thousands of contractors, architects, developers, housebuilders,

housing associations, government, civil engineers and construction professionals over the two days at the show.

What to expect at London Build this November

- 500+ inspiring speakers across eight conference stages including Future of Construction, Digital Construction, Fire Safety, Sustainability, Diversity & Inclusion and more
- 200+ hours of CPD training and masterclasses
- 350+ exhibitors showcasing the latest services, products and innovations transforming the industry
- 30,000+ registered visitors from contractors, architects, civil engineers, developers, local councils, house builders/associations and construction professionals
- The UK's biggest Festival of Construction with DJs, musicians, live performances, celebrity guests, entertainment and competitions
- Meet the Buyers with Procurement Teams exhibiting from top contractors including Laing O'Rourke, BAM, Skanska, Morgan Sindall, Costain, Bouygues and Balfour Beatty
- Architect's Hub with project displays and 3D models of upcoming projects from leading architects across the UK including Broadway Malyan, BAM Design, Genlser, HLM Architects, PDP, TP Bennett and many more

- Government Hub facilitating meeting with HS2, Transport for London, Skills for a Sustainable Skyline Taskforce and Connected Places Catapult
- Exclusive networking parties co-hosted with leading industry bodies
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Feedback from exhibitors and attendees – speaks for itself

"London Build is the best construction show in the UK to do business!" – Franchise Brands

"We attended a large number of trade shows in 2021 and 2022, London Build was the best performing show in both years by a considerable margin – the team at Oliver Kinross did a stellar job of hosting the event over two days and ensured that we got to see the best people in the construction space. These events provide

us with a considerable ROI and will remain our 'must do' event for the foreseeable future." – Fonn

"That was the best show for us this year by far, great work! I appreciate your help and support and patience with members of the team. Personally, this is the flagship event of the year for us in the UK and your support is always noticed." – PlanRadar

"Having the opportunity to engage with such a diverse range of stakeholders was so energising and we are super grateful to have had the opportunity to get involved. Congrats on pulling off my favourite industry/trade show so far – we hope to see you there again next year!" – Natural Building Systems.

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**BUILDING
PRACTICES**

**HS2 INTERCHANGE STATION
SOLIHULL**

Changing to a greener route

Arup's design for the HS2 Interchange Station now underway near Birmingham sets new standards for sustainability as well as connectivity. Tom Boddy reports



Although it was recently confirmed that HS2's overall scope has been severely truncated, with Rishi Sunak announcing that the northern leg beyond Birmingham was being cancelled, a major scheme to the south east of the city remains in progress. The design for one of what were four major transportation hubs for HS2, in Solihull, has impressive green credentials, with it being claimed as "the first train station globally to achieve BREEAM Outstanding certification."

Currently at the design development stage with major works expected to start in 2024, the Arup-designed scheme will play a "crucial role" in the HS2 network, serving the West Midlands, Birmingham Airport, and the National Exhibition Centre (NEC), while also connecting to the UK motorway network.

Client HS2 Ltd selected Arup through a competitive process to lead the development of a "fully assured" design that not only "aligned with HS2's requirements" but also achieved a "Schedule 17 planning permission in accordance with the HS2 Design Vision," explains Kim Quazi, director at Arup.

The site for the station is situated within a 'green triangle' formed by the M42, A45, and A452, east of the NEC. This location was chosen particularly to ensure excellent connectivity to local transport networks, serving the wider West Midlands region and facilitating easy access to local and regional rail and road networks.

The project will function as a "regional gateway," and also increase connectivity to key destinations like the NEC, Birmingham International Railway Station, and



The focus was on prioritising a design that is “purposeful, simple, efficient and beautiful”

Birmingham Airport – all of which will be connected to the new station via an Automated People Mover.

The Interchange Station features two 415-metre-long island platforms and serves six tracks (two for high-speed through trains). This design accommodates up to five 400-metre-long high-speed trains per hour in each direction. The primary station concourse is situated west of the platforms, opening onto a public plaza to the north west and connected to the eastern side by a pedestrian bridge. The station’s design also includes facilities such as parking, taxi ranks, drop-off and pick-up points, and bus stops.

Arup completed the scheme design for the station in 2019, and the project is currently in the detailed design phase, which is being managed by the design and build contractor Laing O’Rourke.

Brief & concept development

Throughout the concept design phase, the team made a constant effort to ensure they took a “holistic, integrated multidisciplinary approach” to the design, bringing together a large team of core and specialist designers.

In the early stages, the team explored four primary options for where the station ‘box’ itself should be located. Two options looked at the potential of locating the

station immediately adjacent to the trace (the track’s position in the landscape), while the other two placed the station ‘off trace’ to the east and west. These options were deliberated upon during a particular mentoring session of the HS2 Design Panel, and it was during this session that the idea of siting the station box to the west of the trace gained substantial traction.

The architects challenged the brief throughout the design stage to “ensure the proposal provided value-added benefits across the multi-disciplinary design and achieved an effective and simple solution.”

The design responsibility for the track itself and rail systems was outside the scope of Arup’s involvement. But for the station, the focus was on prioritising design that is “purposeful, simple, efficient and beautiful.” This was extended to cover how the team used digital tools. The analytical design tools used by the various disciplines were linked together, so design changes could ‘cascade’ through all work disciplines in real time. “A full BIM model was developed, and all disciplines worked through a single co-ordinated model within the site boundary.”

In terms of sustainability, HS2’s initial brief was centred around the goal of BREEAM Excellent certification. The team, consisting of ‘core’ and specialist designers,



worked in close collaboration to enhance the project's early stages. This involved optimising the building's shape, form, and orientation, as well as adopting an energy strategy that was rooted in a fabric-first approach.

The result exceeded the original objective by the delivery of a scheme that is on course to achieve BREEAM 'Outstanding' certification, which is according to the architects, will be the first train station in the world to achieve this while maintaining a zero "regulated" carbon footprint.

This design response reinforced the sustainability credentials by using a 'leaf' concept that extended from the timber roof design to the station concourse below. This helped to signal a design that sought to "touch the ground lightly" in terms of its low environmental impact.

Arup emphasise that through a rigorous process of user engagement, they created a design steeped "in the unique landscape characteristics of the site," which in particular maximised views across the Hollywell Brook Valley." This approach further strengthened the rationale behind the 'leaf' concept.

Layout & operation

The station's design incorporates several key elements that combine to optimise

functionality and passenger experience.

The main station is positioned to the west of the platforms towards Hollywell Brook Valley, which connects to the platforms via two overbridges, one to the north and one to the south. A central pedestrian bridge spans the tracks, providing easy access to the taxi drop-off area. "Leveraging the site's topography," plantrooms and station back of house operational areas are situated beneath the main concourse.

Inside the main concourse, passengers have comfortable waiting areas, retail spaces, and a variety of food and beverage options.

The station accommodates six high-speed lines, with four directly linked to the station. Four generously sized platforms are configured as two platform islands, each 415 metres in length and 12 metres wide. In the centre of the railway layout, two high-speed lines allow trains to speed through the station at their maximum velocity. The station's placement is carefully aligned with the platforms and the existing site context. "In broad terms, the layout is symmetrically arranged around the centre of the platforms," says Quazi.

The purpose of this was to ensure equal distribution of vertical circulation to the platforms and a centralised control line to support intuitive navigation and

NEW LEAVES

The station's design, particularly expressed in the roof forms, follows a 'leaf' concept, reflecting the architects' sustainability aims



FACING PAGE

The roof lights are angled towards the north to bring diffused natural light down into the concourse



simplify operation. Circulation from the control lines to the platforms is via the ‘paid concourse gallery.’ The concourse is designed “predominately off-trace,” says the architect, i.e. not aligned with the track, thereby “simplifying its structure and improving constructability.”

Automated People Mover

The Automated People Mover (APM) system will transport passengers and visitors between HS2’s Interchange Station, the NEC, Birmingham International rail station, and Birmingham Airport. The design aims to make it environmentally friendly as well as “efficient, accessible, and reliable.” With the capacity to carry up to 2,100 passengers per hour in each direction, it will complete the journey in just six minutes.

The APM system has been designed with a “pinched loop configuration,” accommodating vehicles equipped with cable or self-propelled technology. The terminus stopping points, namely the Birmingham Airport Stop and Interchange Station Stop, are situated on a single-track viaduct, each featuring one platform.

The stops at the International Station and NEC each have two platforms, with the People Mover diverging around them. Within these stopping points, one platform caters to westbound travel, while the other facilitates eastbound journeys. An additional double track is included connecting to the maintenance facility,

allowing two rail cars to pass each other “gracefully” along the viaduct.

To ensure the APM system seamlessly integrates with the main station, the station points and maintenance facility were developed by a similar core team of designers and both projects replicate the same architectural and engineering design methodologies and approaches.

Design vision: working with nature

The overall design vision for the station and surrounding site is “rooted in an ambition to work with the nature that surrounds it,” explains Quazi.

The station’s form has been carefully designed to reflect the rural landscape while strategically positioned to maximise views of the nearby valley. It focuses on merging with the existing natural landscape by working with the existing topography, and is situated on the site to minimise regrading of the ground levels.

The North West Plaza and the station’s front are positioned at the natural edge of the Hollywell Brook Valley, with the land descending a gradient toward the brook. “This allows the podium level accommodation to be fitted under the concourse while remaining outside the brook’s flood zone,” says Quazi.

The concourse level’s south-facing terrace provides a “panoramic view” of the valley’s gradual descent. At the platform level, the design eliminates the necessity for retaining walls to support the eastern drop-off





area. Except for the station and bridge abutments, users are provided with either views of striking green embankments, or the picturesque surrounding countryside.

The roof takes the form of interlocking diamond-shaped ‘leaves,’ meticulously designed to “work with the environment,” says the architect. The glazed structures face towards the north, not only bringing diffused natural light into the station concourse, but also channelling any rainwater to storage for later use.

Near the station building, a rainwater harvesting tank will be installed to facilitate this. The system will include an underground water storage tank that pumps collected rainwater to an internal rainwater supply interface and control unit. The gathered rainwater will then be employed within the station premises and on the platforms for various non-potable purposes, such as flushing WCs and urinals.

A new gateway

The station’s architecture has been created to fulfil its pivotal role as the “gateway to the West Midlands.” Embodying that presence, as passengers step onto the concourse, they are greeted by a “vista of trees that frame Solihull,” with the NEC and the airport visible in the background.

Taking advantage of the setting in this way, coupled with the station’s naturally-inspired roof design, creates a “sense of arriving at a destination in its own right,” asserts Quazi.

The expansive canopy, extending over the Western plaza, not only provides shelter but also frames scenic views of the public spaces surrounding the station, enhancing the experience of arrival. The station also provides a unique vantage point which allows passengers to view the high-speed railway tracks below. This is located on a generously-proportioned pedestrian bridge specified with high-quality finishes to

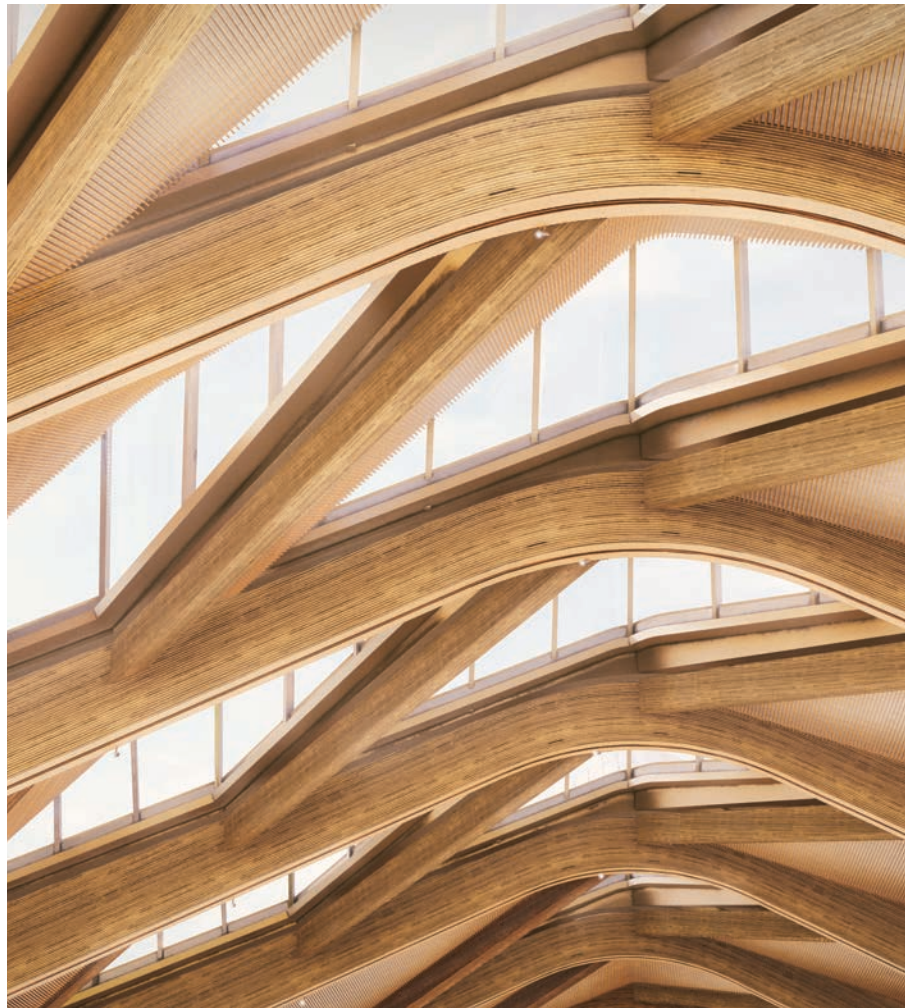


create a pleasurable passenger experience, allowing them the “opportunity to reflect on a journey in prospect or just completed.”

Sustainability wins

The expectation-surpassing BREEAM ‘Outstanding’ certification for the design was the result of a painstaking focus by the team, and the thoughtful selection of strategies and materials. This has culminated in the blueprint for one of the world’s most environmentally friendly railway stations yet built in the UK.

One key sustainable aspect of the station is how the roof is made from glulam timber, which delivers multiple benefits. It significantly reduces the project’s embodied carbon footprint, not only for the roof itself but also by allowing for lighter and shallower concrete foundations. Quazi says: “We have worked with the existing site topography to remove requirements for retaining walls in the wider site.”



The station will incorporate over 2,000 m² of solar panels generating zero carbon electricity – they will be located on the canopies over the car parking spaces for people of reduced mobility, for ease of maintenance.

The energy created from this array will be used to power the building’s air source heat pumps, providing both heating and cooling for back-of-house facilities, communication systems, and plant rooms serving the rail systems. It will also contribute to the station’s general power provision and facilitate electric vehicle charging in the station’s car park. A proportion of the PV provision will also be used to serve the Automated People Mover (APM)’s maintenance facilities to achieve the zero regulated carbon aim. Cycle storage houses 176 bicycles with further room for expansion.

One of the main engineering and design challenges that Arup encountered was to

The result exceeded the original objective by the delivery of a scheme that earned BREEAM ‘Outstanding’



ensure the concourse area was unheated and uncooled (with only natural ventilation provision), while achieving the HS2 internal temperature criteria for both winter and summer. Controlling the relative humidity of the concourse was also crucial to guarantee the durability of the timber roof and reduce the risk of condensation on the facade. The building physics, architecture and engineering teams have collaborated closely to achieve this, and simulations were carried out to predict the internal temperature and relative humidity of the space, against the structural timber requirements and condensation risk on the facade.

The building envelope provides the primary level of protection against adverse external conditions, both in summer and winter. During the early stages of the project, a key priority was to determine the required U-values and air permeability of the envelope to ensure thermal comfort and reduce the condensation risk.

During periods of high footfall in cold weather, where the main entrance doors are open for extended periods, air curtains will be used when required to further reduce the risks of cold draughts and discomfort.

Project into the future

This significant contract for both client, Laing O'Rourke and Arup is valued at

The overall design vision for the station and site is “rooted in an ambition to work with the nature that surrounds it”

around £370m, and will require more collaboration between O'Rourke and HS2 Ltd, across its two distinct stages. Initially, the teams will finalise the detailed design, followed by the construction of what is likely to become an iconic station in the area over the following several years.

As well as being highly sustainable, the station is set to boost the local Solihull economy. Arup's inclusion of what is a grand public forecourt has been designed to allow for future development to help support this growth. Stakeholders such as Arden Cross, the Urban Growth Company (on behalf of Solihull Council), the West Midlands Combined Authority and others, are developing opportunities to help maximise the economic potential.

According to HS2, the ambition is to create of 30,000 jobs as a result of the new Interchange Station and its ancillary facilities, as well up to 3,000 new homes, and 70,000 m² of commercial space. ■

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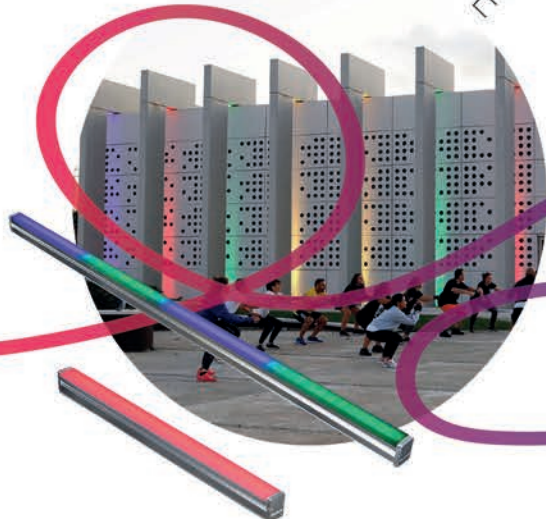
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EPD Insulation Group build board to grow business

EPD Insulation Group, the independent, family run, insulation and associated building materials specialist established in 2011, have appointed its first full board of Directors.

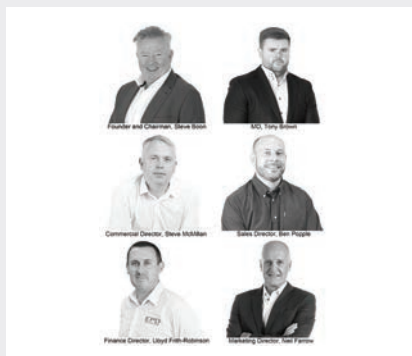
The senior management has had a recent change as Founder and Chairman, Steve Boon and MD, Tony Brown, gather the core skill-sets needed and establish a board of Directors that can take the business forward to new levels of success.

The new board consists of Steve Boon, Founder and Chairman, Tony Brown, MD, Lloyd Frith-Robinson, Finance Director, Steve McMillan, Commercial Director, Ben Popple, Sales Director and Neil Farrow, Marketing Director. Steve Boon commented: "As we see the business going through a record growth period it was evident that we needed the right skills and personalities to take charge of their respective departments and manage that growth in the most effective way."

Servicing its current customers from a 90,000 sq/ft central distribution hub based in Peterborough, and a 46,000 sq/ft hub west of Cambridge via a large and diverse fleet of delivery vehicles, EPD has now put in place the next phase of its growth.

With its large stock holding in excess of £3.5million, and the large delivery radius, EPD are able to supply stock items from their warehouses on a next day basis if required. Additionally, they have invested in a brand-new digital delivery system, which ensures you are able to track your order in real time via your phone or email.

EPD work with some of the biggest, and most established brands in the industry, including Kingspan, Recticel, Rockwool, Ecotherm, Mannok, URSA, Superglass, Hadley Group, Jablite, and Libra Systems. Apart from insulation, they supply other vital products such as plywood, timber and fixings, as well as being one of the largest independent importers of Plasterboard to



the UK. Making sure all of this runs like a well-oiled machine, they have a friendly and approachable sales and client services team who offer knowledgeable, efficient, and effective solutions.

EPD believe that their strong supplier relationships, large stock holding, diverse fleet of vehicles, central distribution hubs, and friendly knowledgeable sales team mean that they are able to offer some of the most competitive pricing and high-quality services in the market place.

01733 202996
sales@epdinsulationgroup.co.uk

Maperend render system awarded BBA Certification



Mapei has now received BBA Certification for its Maperend render system. Maperend is a thin coat render for use as a ventilated and drained exterior wall system onto timber and steel-frame buildings, and is directly applied to Knauf Aquapanel Exterior Cement Board. During the BBA assessment process, key factors tested include mechanical resistance and stability, and safety in case of fire – the system is rated A2-s1,d0, in accordance with BS EN 13501-1 : 2018. This classification applies to the complete Maperend colour range.

During the rigorous assessment process, the render system was tested across several key areas, including its safety, quality and compliance for use on external facades and its suitability for use in exposure zones up to and including the 'severe' wind-driven rain index category. Mapei also holds BBA Certification for its Mapetherm EPS and Mapetherm EPS PLUS EWI systems. All EWI systems, according to the BBA, also comply with NHBC Standards 2021.

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

Lee is the automatic choice



GEZE UK has demonstrated its commitment to supporting customers with technical advice and product guidance with the recent appointment of Lee Jodka, who joins the renowned manufacturer of door and window control systems as Area Sales Manager for supply and fit of automatic doors covering London and the South East. Lee will focus on developing first-class relationships with key contacts at main contractors, façade and specialist contractors as well as end-users, where he will provide advice and technical support, propose technical solutions from the company's extensive range of automatic operators as well as carry out site visits and surveys. With 19 years in the construction industry he has a wealth of knowledge; Lee began his career in the architectural ironmongery sector but has held roles in technical sales and specification as well as account management. Andy Iredale, National Sales Manager for Automatic Doors and Window Technology said, "It's great to have Lee on the team; he has vast experience across the industry. He will be a great asset to the company and an important part of the company's continued growth."

01543 443000 www.geze.co.uk

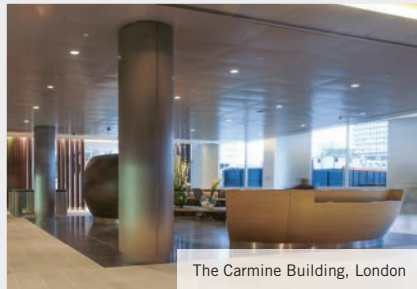
Covering up with Verta column casings

Decorative architectural casings are a common feature in contemporary building design as they provide a versatile, effective and stylish method of concealing structural steelwork and concrete support columns.

The combination of practicality, versatility and aesthetics are at the core of the Verta column casing range from Encasement Ltd, which have been installed on projects within most sectors, including retail, education and healthcare, as well as hotel, sport & leisure and commercial refurbishment.

Key to this versatility is the range of materials and finishes available to specifiers, as well as the option of selecting products from the available standard shapes and sizes or creating bespoke manufactured designs for specific projects.

As a result, Encasement casings have been specified and installed by many well-known brands, which includes Porsche; Premier Inn, TATA; Kia Motors; Halfords and Tesco together with a wide range of retail outlets, hospitals, universities, leisure projects and office buildings across the UK.



The Carmine Building, London

The Verta range incorporates six separate products, including Circa pre-formed MDF and plywood Quadra casings, together with the Forma metal range. Alongside these, the Polyma GRP and Gypra GRG casings are moulded from glass reinforced polymer and glass reinforced gypsum, respectively, while the Metza range, provides up to 2 hours fire protection for mezzanine floor support columns.

Circa and Quadra casings are manufactured from pre-formed MDF and plywood respectively, using UKTR compliant and sustainably sourced timbers, they are designed purely for interior use. Within each range, circular and square profiles can be specified in a wide range of sizes, as well as extended circles and rectangular profiles that use additional pre-sized infill panels to give greater design versatility.



Lime Wood Primary School

Like other column casings in the range, a wide choice of finish options is available, with decorative high-pressure laminate (HPL) being the most popular for both Circa and Quadra. In addition to resisting damage, scuffs and scratches, HPL offers an extensive range of finishes, including plain colours, wood grains and metallics, as well as textured and real wood veneers. Circa is also available as an unfinished plain casing for on-site painting and decoration.

Among the many Circa and Quadra installations, are Liverpool University, Rosendale Health Centre, Gateshead International Stadium and Blackburn Markets, as well as Worksop Bus Terminal, Farnborough College 6th Form Centre and the Dame Kelly Holmes Sports Centre.

Whilst all Encasement's column casings are suitable for interior applications, Polyma and Forma can also be used on exterior projects, due to their inherent weather resistance and durability. Manufactured from aluminium or stainless steel, Forma casings can be specified

as circles, with diameters from 250 mm up to 1,000 mm, as well as square, rectangular and hexagonal forms, or bespoke profiles. The choice of finishes is also extensive with British Standard and RAL colour PPC options available, alongside brushed, anodised, embossed and textured surfaces.



Dame Kelly Holmes Sports Centre

Durability and colour choice are also features of Polyma GRP casings. As they are produced from moulds, this manufacturing method allows a high degree of design versatility with shape; size and colour options all open to specification to meet bespoke project requirements.

Projects, such as Lime Wood Primary School in Erith, Kent and The Carmine Building in London, together with Cardiff's Sherman Theatre and Premier Inn, demonstrate the versatility of Forma and Polyma bespoke column casings in both exterior and interior applications.



Premier Inn, Cardiff

01733 266 889
www.encasement.co.uk



40 for 40 goes on protecting habitat



To date, 40 for 40, a partnership between **Parkside Architectural Tiles** and World Land Trust has protected nearly half a million square metres of biodiverse habitat. 40 for 40 is a partnership between specifiers, Parkside Architectural Tiles and the World Land Trust, www.worldlandtrust.org, to protect the world's precious natural habitats. By specifying tiles from Parkside that have 40% recycled content or above, specifiers can play an active role in saving land and species. Since its launch, 40 for 40 has protected 484,611 m² of habitat through World Land Trust's projects. This contribution has helped the World Land Trust to secure the future of more than 2,600,00 acres of land to date, protecting over 11,000 species. Currently, the programme is supporting land purchase in Argentina and Kenya and Parkside has committed to continuing the 40 for 40 partnership for the future. Tiles that qualify under the 40 for 40 programme, including an extensive range of design tiles and specialist solutions such as the 100% British made Ethical Stone Terrazzo, can be found on the tile specialist's website.

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

Save money on market-leading louvres with Renson UK



Ventilation louvre specialist **Renson UK** has experienced a surge in demand for its market-leading products following a series of transformations within the Maidstone-based firm. These changes, strategically undertaken to propel business expansion and progress, encompass internal restructuring aimed at enhancing customer service and broader pricing adaptations designed to better align with the broader louvre market. National Sales Manager Martin Daniels comments: "Architects and specifiers across the UK may already be familiar with Renson UK and our reputation for offering market-leading ventilation products – for many years, we've been widely recognised as the premium option within the louvre market, known for providing bespoke products that exceed expectations. Thanks to recent developments and careful internal re-structuring, we've managed to lower our prices, meaning our customers can enjoy the exceptional quality and performance associated with our products at a more affordable cost." Martin concludes: "Our team of experts are ready and waiting to assist you in finding the perfect ventilation solutions for your specific requirement."

www.renson.eu/en-gb/for-professionals/contact

Unilin Panels adopts Cradle to Cradle Certified



Unilin Panels raw and melamine-faced fibreboard and chipboard panels now come with a Bronze Version 4.0 Cradle to Cradle Certified Material Health Certificate™, putting them among a select group of products that have independently proven their environmental credentials. Cradle to Cradle Certified® is recognised as one of the world's best environmental standards and is used by global brands to innovate and optimise materials and become a more sustainable business. In everything from fashion, technology, food and drink, beauty and healthcare to home, automotive, construction and interiors; Cradle to Cradle Certified measures every aspect of a company's impact. It's one of the world's most stringent environmental certifications and is entirely independent. Unilin Panels is committed to being a sustainable business and to play an active role in a circular economy. Its already on a journey and adopting C2C and its methodologies lets specifiers and producers be confident in the company's environmental stance. And as it has to keep moving forward to keep Cradle to Cradle Certified – every step it takes results in a business that's more sustainable than before.

info.panels@unilin.com www.unilinpanels.com

The A. Proctor Group aids specification for architects



The **A. Proctor Group** recognised worldwide for its extensive portfolio of technically advanced thermal, acoustic and membrane products for the construction industry, has collaborated with NBS to aid the specification process for architects and designers covering an extensive range of systems and components for floors, walls, and roofs. Available through NBS Chorus and NBS Source, specifiers can now access a full suite of digital products and technical specifications for many of the A. Proctor Group product solutions. The collaboration with NBS provides architects and designers with a comprehensive technical specification writing service. In addition, specifiers have easy access to the manufacturer's specification data, BIM objects, literature and third-party certifications. The rich data available through NBS combined with the expertise of the A. Proctor Group's technical team will help to make the specification process quicker, more effective, and more accurate, saving time and cost. Product solutions from the A. Proctor Group can be searched for and added to specifications via the NBS Source pages or NBS Chorus app for specifiers who use the NBS platform.

01250 872261 www.proctorgroup.com

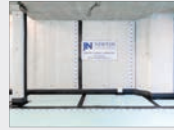
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Waterproofing and damp proofing differences



Newton Waterproofing Managing Director Warren Muschialli comments: "Understanding the difference between waterproofing and damp proofing is vital for employing the appropriate method to protect buildings from water-related issues. Whilst waterproofing provides a defence against water ingress in below-ground areas, and is very much dependent on the desired internal environment, the method of construction, and the client's expectations, damp proofing is specifically designed to combat the three main types of damp, as well as damp-related issues, in above-ground spaces."

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Constructionline Premier membership confirmed for EJOT and LIEBIG anchors



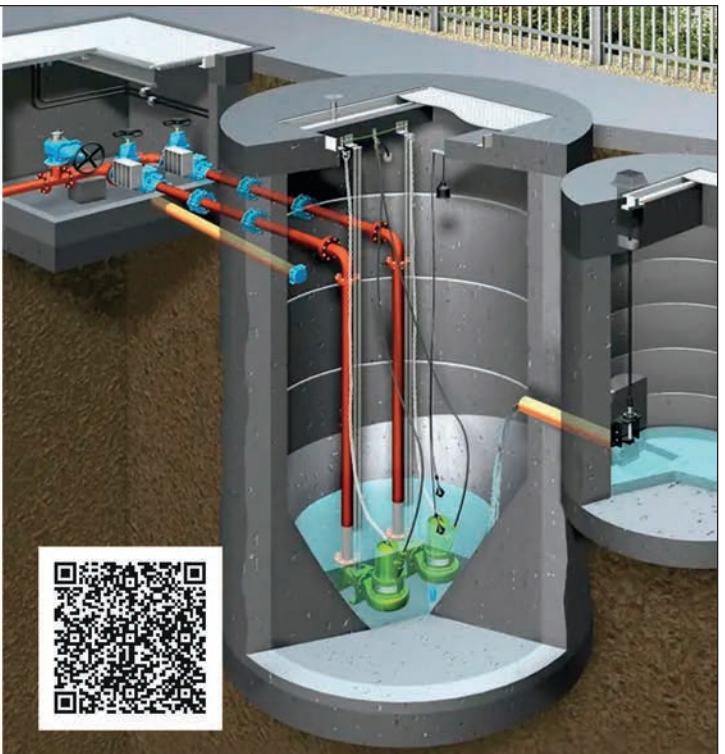
EJOT's range of high performance concrete anchoring solutions, at the heart of which is its globally renowned LIEBIG heavy duty anchors, is now available for main contractors and public sector project teams to specify and procure with confidence through the Constructionline platform. In being approved as a Constructionline Premier member by the industry-leading procurement and supply chain management service, EJOT has been verified to operate to the highest ethical and quality standards under the latest membership structure. Membership to this highest level means EJOT has successfully complied with Constructionline's enhanced assessment criteria in areas including environmental management, quality management and equal opportunities policies. As a result, buyers involved in major public sector building and infrastructure projects can find valid information on EJOT's fastening systems, including its market-leading building envelope solutions and LIEBIG heavy duty anchors, in Constructionline's supplier database. The LIEBIG range of heavy duty anchors has been used globally since the 1980s in wide variety of applications.

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Triton Systems speed waterproofing of wedding venue cellar



A National Trust property in Surrey, popular for both weddings and with visitors wanting to explore the listed farm buildings and extensive grounds, is currently undergoing a refurbishment programme, with waterproofing and other products from the range of **Triton Systems** having been employed by a specialist sub-contractor to complete some very rapid remedial work. Archer Specialist Treatments is a long term customer of Triton Systems and has used both its timber treatment and tanking products for its work on Hookhouse Farm at Outwood in Surrey, where a 17th century barn featuring an imposing 'queen-post' timber truss roof offers a stylish setting for couples to exchange their vows. The main challenge for Archer Treatments' experienced team was to tank the cellar beneath the farmhouse in just six days. Suffering regular flooding to a depth of half a metre, the 30 m² cellar in the original farm house required the installation of both Triton's P20 and P8 drainage membranes to waterproof the floor and the walls to the subterranean space, while one of Triton's automatic pumps was also fitted to remove any water collecting in the sump created.

01322 318830 www.tritonsystems.co.uk

Senior launches online brochure trio

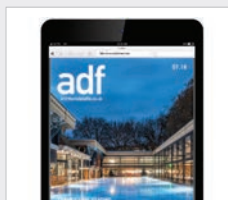


Aluminium fenestration solutions supplier **Senior Architectural Systems** has developed three new product brochures to provide a handy online resource for the specification of aluminium windows, doors and curtain wall systems. Showcasing Senior's

commitment to sustainability through its energy-efficient and fully recyclable product ranges, the brochures are set to provide a useful tool for meeting the new requirements of Part L of the Building Regulations on a variety of commercial projects from education and healthcare to retail and leisure.

www.seniorarchitectural.co.uk www.x.com/Senior_Systems

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New Troldekt panels with reduced carbon footprint

Since 2012, Danish acoustic panel manufacturer Troldekt has led the way with its sustainable practices and leadership. An early adopter of the Cradle-to-Cradle design concept, the company has focused on its material health, reutilisation, energy, water and social responsibility winning recognition and numerous green awards over the years.

The inclusion of FUTURECEM™ within its wood wool panels has further enhanced the manufacturing process, helping Troldekt further solidify their Cradle-to-Cradle Gold Certification. FUTURECEM sourced from Aalborg Portland exploits the synergies between calcined clay and limestone filler. With this process, much of the burnt clinker in the cement can be replaced resulting in a bonding agent with a much lower carbon footprint. The result means that now, over their product life cycle, the carbon footprint of Troldekt acoustic panels based on FUTURECEM are 26% lower than



that of Troldekt based on grey cement and 38% lower than that of Troldekt based on white cement.

This innovation, coupled with the company's sole use of wood from FSC® and PEFC™ managed forests has helped Troldekt

get one step closer to its strict environmental targets. It also further enhances a building's contributions towards BREEAM, WELL, LEED and DGNB-Certifications.

Troldekt acoustic panels are available in a variety of different structures and colours combining superior sound absorption with award-winning design. The Troldekt range has a minimum expected life cycle of 50 years coupled with excellent resistance to humidity and tested to meet ball impact standards. The range is available in various sizes and structures, from extreme fine to coarse. They can be supplied as natural wood or finished in almost any RAL or NCS colour. Depending on the panel specified, reaction to fire is classed in accordance with EN 13501 as B-s1,d0 or A2-s1,d0 respectively.

Samples, case studies, EPD's and technical guidance are available from the website.

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www.troldekt.com






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Sika becomes early adopter of the Code for Construction Product Information

Global building product manufacturer Sika has become an early adopter of the Code for Construction Product Information (CCPI) which has been published to drive higher standards in the presentation of construction product information within the manufacturing industry.

A response to Dame Judith Hackitt's independent review into Building Regulations and Fire Safety, the Code was developed by the Construction Product Association's Marketing Integrity Group following two years' engagement with industry. It has been created to promote an urgent and positive culture and behaviour change in the way the construction product manufacturing industry manages and provides information on its products.

Globally renowned for high quality construction solutions and with a commitment to raising industry standards, Sika is one of the first product manufacturers to have achieved CCPI verification of its first product



(L-R): Alex Coward, Head of Technical – Roofing, Gavin White, Head of Product Management – Roofing, Dame Judith Hackitt

set for Single Ply Roof systems. The company maintains a strong focus on transparency and by committing to the code it will provide further independent assurance and greater confidence in the information associated to its CCPI-verified product-set.

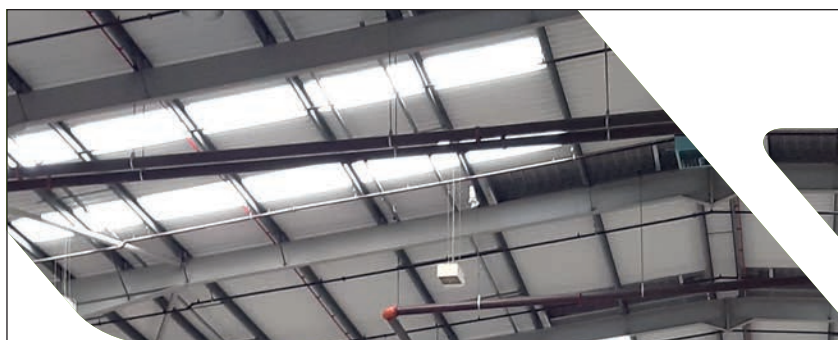
There are 11 Clauses within the CCPI assessment which cover a wide range of matters from responsibility for product information, to transparency of performance,

proof of stated claims, general information and competency. The CCPI is built around five 'acid tests' – product information must be 'Clear, Accurate, Up-to-date, Accessible and Unambiguous'. The 11 clauses are underpinned by a requirement to demonstrate the highest levels of integrity, ethics, leadership and culture.

"We are delighted that Sika is an early adopter of the code," said Mark Gatrell – Head of Business Unit Roofing for Sika in the UK. "The Code is aiming to drive the highest standards in product information, setting a level playing field for all construction manufacturers to ensure that the information they provide is clear, accurate, up-to-date and unambiguous. We're proud to be working proactively with the CCPI to raise standards in product information management."

For more information visit the CCPI at www.cpicode.org.uk

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Hambleside Danelaw
Building Products



Carlisle launches Sure-Weld® TPO to its roofing range in Europe

Carlisle Construction Materials (CCM), the specialist in waterproofing, sealing and airtightness solutions for the building envelope, is launching the company's proven TPO roofing system across all its European markets, including the UK.

TPO (thermoplastic polyolefin), also referred to as FPO, is a single-ply roofing membrane, which provides an excellent choice for larger flat roof buildings, such as warehouses, logistics hubs and industrial units. Carlisle's Sure-Weld® TPO roofing membrane has been a popular single ply system in the USA for over 20 years, with more than 500 million m² installed on buildings worldwide, including factories, warehouses, hospitals, schools and large retail units.

Suitable for both new build and refurbishment projects, Carlisle's Sure-Weld® TPO roofing system is available in either white or grey, reflecting rather than absorbing heat. This makes it particularly useful for reducing urban heat island effect in heavily developed locations and areas affected by increased temperatures due to climate change. The membrane is also fully compatible for solar PV installations, and offers excellent root resistance for green roofs, which makes for a compelling environmental case.

Sure-Weld® TPO is removeable and recyclable at the end of its service life, making it ideal for any project with circular sustainability goals, and, unlike some other single ply membranes, TPO does not contain plasticisers or other toxins which are harmful to the environment.

Sure-Weld® TPO forms part of an innovative portfolio of flat roofing systems from Carlisle, which includes EPDM and PU liquid waterproofing systems. The addition to the range further enhances specifiers' choice from the trusted Carlisle brand, while offering a TPO product with exceptional practicality



and performance, thanks to Octaguard XT weather protection, an ingredient combining U/V and temperature stabilisers, used exclusively in TPO formulation by Carlisle. This gives Sure-Weld® TPO improved durability and flexibility and enables Carlisle to offer this system with their best-in-class extended guarantee scheme.

Available in a range of widths, and thicknesses of 1.2 mm, 1.5 mm and 2.0 mm, the Sure-Weld® TPO range includes a variety of accessories for ease of detailing and two additional widths. This fully compatible system is part of a full roof build-up from Carlisle, including vapour control layer and insulation, and is mechanically fixed or ballasted, including mechanical installation using Carlisle's induction installation system.

Allen Coldrake, director of sales and technical roofing at Carlisle commented: "The use of TPO membranes is growing across Europe, with environmentally focused brands using TPO to maximise the potential

of solar energy as part of their carbon reduction strategies. In Germany, a ban on PVC membrane in some cities, such as Berlin for example, is acting as a catalyst for growth in the TPO market, while in Spain, high levels of UV and a trend for large roof sizes is also prompting high demand for TPO.

"These European trends, as stated by Global News Wire reflect predictions that the global green building materials market will Reach US\$ 951.15 Billion by 2030, with a 12.3% CAGR. In the UK, the government has set a target of net zero carbon emissions by 2050, which has led the Construction Leadership Council (CLC) to coordinate the cross-industry C02nstruct Zero programme, driving demand for sustainable building products with reduced embodied carbon and improved circularity.

"The reflectivity of Sure-Weld® TPO, its suitability for solar PV installations and its long, low maintenance lifespan are all factors that align to this agenda and will help to drive specification for larger roofs. We are delighted to be able to offer architects, specifiers and contractors even greater choice from Carlisle, along with reliable supply and high standards of service and technical support."

info.uk@ccm-europe.com
www.ccm-europe.com



Led by heritage lead

Victoria Ramwell from Kemper System explains the key considerations and advantages of specifying cold-applied liquid waterproofing for historical buildings

Many older properties feature different roof shapes with flat roofs – typically seen on extensions, or over porches and dormers. Although a flat roof may be less visible from the ground, it can still contribute to the character of a historic building, requiring specialist materials and workmanship.

When waterproofing a flat roof as part of a heritage refurbishment, a liquid-applied membrane may not always be front of mind for specifiers and contractors. However, the versatility of this modern technology means it can emulate traditional roof coverings, providing a cost-effective and durable solution.

Going green

As liquid-applied membranes can be manufactured in bespoke colours, this makes them ideal for heritage projects featuring aged copper roofs. Over time, the weathering process and exposure to moisture will change the chemical composition of the metal, turning the copper into a distinctive light green colour also referred to as ‘patina.’

By mixing different pigments during the manufacturing process, a liquid can be matched to roofs’ patina, providing the exact shade of green needed to achieve a consistent colour for both refurbishments and extensions.

In London, a building located in the heart of an historic 11-acre estate is one example of a property to benefit from liquid waterproofing. Property and construction consultancy Ingleton Wood specified a cold-applied liquid as part of the wider refurbishment of the building, which has been transformed into Grade A office space.

To emulate the appearance of the existing copper roof, the polyurethane liquid was manufactured to create the exact RAL 6034 colour code specified for this project. In this instance, the same liquid already featured

on the roof, so it was overlaid with the new membrane to refresh the green colour. The refurbishment also required new roof areas to be waterproofed with the specially manufactured liquid.

As well as meeting specific design requirements, the liquid waterproofing generated further benefits for this project. It was quick and easy to install around the roof’s extensive detailing, including numerous pipe and ventilation penetrations.

Sandwiched between two other properties on a main road in London, meaning very limited access for the roofing contractor. As the liquid-applied system eliminated the need for extensive equipment or large sheets of material, this helped to minimise logistical challenges.

A lead alternative

Another benefit of liquid technology is it can be used as an alternative to lead, providing a more cost-effective solution that avoids the risk of theft. A liquid can be used to waterproof entire roofs or for smaller and more specific design requirements.

For example, architects responsible for the refurbishment of North Western Hall in Liverpool, specified a liquid membrane to waterproof 40 chimneys that run around the perimeter of the Grade II listed building and its slate roof.

The architects wanted to emulate a lead appearance, which saw a trial carried out on one of the chimneys. This then had to be approved by the local council before the rest of the work could begin.

The waterproofing process required a timber frame and cement board to be constructed around the top of each chimney, including the existing pots. To create a standing seam effect, timber battens were installed onto the frame prior to applying the liquid waterproofing around the structure. Combined with the seamless grey membrane, this installation process achieved the desired lead appearance.



When waterproofing a flat roof as part of a heritage refurbishment, a liquid-applied membrane can emulate traditional roof coverings, providing a cost-effective and durable solution





As liquid-applied membranes can be manufactured in bespoke colours, this makes them ideal for heritage projects featuring aged copper roofs

Specification considerations

As with any roof refurbishment or renovation, it is essential that a liquid membrane is correctly specified and installed for a heritage project to ensure it performs to the required standard and that historic buildings are protected for the long term.

With such a large number of liquid roofing products now available, specifiers must ensure they thoroughly research which one is most suitable for the application. As well as complying with building regulations, and in some cases the requirements of bodies such as Historic England, there are other important considerations; such as resistance to fire of the proposed roof build-up, the compatibility of the surfaces to be waterproofed, ability to withstand substrate movement, and resistance to damage from anticipated load levels or trafficking.

Independent product accreditation is used to establish conformity and suitability, so it is advisable to research the manufacturer's latest product certification, which is usually provided by the British Board of Agrément (BBA).

With the right specification and

installation, a liquid membrane can not only meet bespoke design requirements, but also ensure a historic building remains watertight for many more years to come.

Project Focus: St. John the Baptist RC Church, Rochdale

This Grade II listed building required a comprehensive overhaul of its roof to address issues with leaks. A tapered insulation solution was specified for the first phase which saw the refurbishment of the west transept roof.

The second phase of the church roof's overhaul saw the building's east transept roofs refurbished, which required the use of cut-to-falls and 'lamella' insulation boards to fit over the barrelled roof sections. A polyester resin-based fully bonded waterproofing system was used for both these phases.

The final phase saw the refurbishment of the central dome roof. After being treated with the solvent free, epoxy-based penetrative primer, a waterproofing system was installed.

Victoria Ramwell is commercial manager from Kemper System UK



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The superior airtightness and water resistance protection benefits of the Wraptite® external air barrier system from the A. Proctor Group is a key feature of an exciting new development at City West, Dublin, Ireland. The project development on behalf of Cairn Homes consists of over 400 residential units within nine apartment buildings ranging in height from one to nine storeys. The new homes form part of a wider mixed-use development, including retail, commercial, office units, residential amenity space, and open spaces along with services provisions to facilitate the development, including parking. The project's design was created by award-winning practice Reddy Architecture + Urbanism, and Platt & Reilly, one of the UK's and Ireland's leading partition and ceiling contractors, installed the Wraptite system. The Wraptite System is installed as an external air barrier and alternative to a traditional standard breather membrane. Wraptite is the only self-adhering vapour-permeable air barrier certified by the BBA and combines the essential properties of vapour permeability and airtightness in one self-adhering membrane.

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Reducing embodied carbon in building design



As we continue to prioritise sustainability in building design and construction, the concept of embodied carbon has gained increased attention. Embodied carbon refers to the carbon emissions associated with the entire life cycle of a building, including the materials used

in construction and the energy required to produce and transport those materials. One way that building designers can reduce embodied carbon is by using underfloor air conditioning (UfAC) systems. Want to learn more? Head over to Flexible Space's website.

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Launch of Consort Connect app



Consort Claudgen have launched Consort Connect app which allows users to have complete control over their heating remotely via their smartphone or tablet. It can control Consort's Wi-Fi enabled heaters and SL heaters connected to an SLPBWIFI wireless controller.

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Panasonic gets the 'Seal' of approval



The seal pup residents of the Hillswick Wildlife Sanctuary in the Shetland islands are now enjoying an improved environment thanks to an energy-efficient heating system from Panasonic. Heatsave

Shetland LTD, experts in heating and cooling, replaced inefficient and expensive to run plug-in electric heaters with a Panasonic 9kW R32 PACi Standard heat pump with a wall-mounted indoor unit to bring an easy to control and comfortable climate to the centre.

0808 2082115 www.aircon.panasonic.eu

World's first brushless industrial pump



Saniflo continues to innovate in the industrial waste pump sector by becoming the first manufacturer to offer a brushless option. The popular Sanicubic 2 Pro Smart is a pumping station designed to lift grey and black waste water from individual properties, small businesses and light commercial premises such as pubs and restaurants. The new brushless

version extends the range to three models – the classic, the Pro Smart and the Pro Smart brushless. Brushless is an advanced technology that improves motor lifespan, product efficiency and reliability.

sales@saniflo.co.uk www.saniflo.co.uk

Upgraded nanoe™ X for better IAQ



Panasonic Heating & Cooling Solutions' innovative nanoe™ X Mark 3 generator now comes built-in as standard in two more of its air conditioner ranges – the MU2 90x90 Cassettes and the MF3 Adaptive Ducted Units, which are widely used for various commercial applications.

Panasonic's nanoe™ X generator Mark 3 is the latest generation of the innovative nanoe™ X technology which helps improve indoor air. Panasonic's Adaptive Ducted Units are a compact and slim system that boasts excellent performance.

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In-line filter for improved indoor air quality



Domus Ventilation's in-line carbon filter range – NOX-FILT – is designed to improve indoor air quality by preventing harmful airborne contaminants, including up to 99.5% of nitrogen dioxide (NO₂) pollution, from entering a

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Review our
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Component	Embodied Carbon (kg CO2e)	Embodied Carbon (kg CO2e/kWh)
Heat pump	658	0.12
Radiators	3,756	0.12
Total	4,414	0.12

NEW
Industry first
DATA



ecodan
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Warning: Are your louvres non-compliant?

Renson UK National Sales Manager Martin Daniels explains how honest testing isn't always as transparent as it should be...

When specifying louvres for architectural projects, it's imperative that the products selected are of the highest quality. At Renson UK, we've spent the past 50 years designing, developing and manufacturing high-performance ventilation products, supplying fully tested, high-quality louvres and mechanical ventilation products for every application. It's during this time that we've come across many non-compliant louvres in the market – and it all comes down to testing.

The industry standard for weather testing of louvres in the UK was developed by the Building Services Research and Information Association (BSRIA) in collaboration with the Heating, Ventilation and Air Conditioning Manufacturers Association (HEVAC), and was adopted in 2001 as British and European Standard: BS EN 13030:2001.

Since then, BS EN 13030:2001 has tested louvres in three key performance



areas – water penetration, or the ability to prevent rain penetrating the louvre; pressure drop, or how freely the louvre allows air to pass through; and overall performance, a combined measure of both. The tests themselves simulate the real-life operating conditions that a louvre will undergo when installed, enabling clients to compare one manufacturer's performance against another.

During the water penetration test, the louvre is subjected to a simulated rainfall rate of 75 l/h and a wind speed of 13 m/s (30 mph). The rejected water is collected in the weather section, and water in the collection duct is measured to calculate the percentage of water penetrated through the louvre. In

addition to the simulated wind at 13m/s, air is drawn through the louvre to simulate inlet ventilation rates.

The problem is, the BS EN 13030:2001 test does not measure or give consideration to the way the water is collected, and it's therefore easy to get away with placing an abnormally large collection plate behind the louvre simply for the sake of the test.

Therefore when comparing different louvres, it is important to obtain a full copy of the test report – a full report will show if any large collection trays were incorporated.

Because of this loophole in the BS EN 13030:2001 test, we've seen a countless number of louvres being approved and highly rated, but that end up being non-compliant, and at Renson, the last thing we want to do is let our customers down with an inferior product. We therefore provide all our customers with full test reports for complete transparency – additionally, all our test reports are freely and easily downloadable from our website.

www.renson.eu/en-gb/for-professionals/contact

Gaia installs electric underfloor heating in trailblazing eco housing development

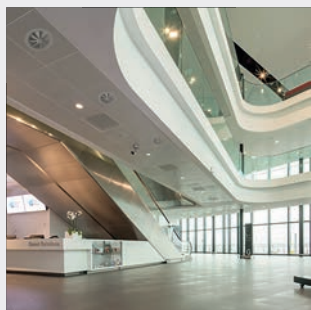


Photo by Dr Jerry Harrall

Underfloor heating specialists Gaia have designed, supplied and installed state-of-the-art electric underfloor heating in eco housing development Howgate Close. Howgate Close provides local people with high quality rented homes, offering low running costs, low maintenance and access to the countryside. However, a key benefit is the energy efficiency. All dwellings feature electric underfloor heating as a back-up to energy generated from 138 roof-mounted photovoltaic (PV) panels. With Design SAP (Standard Assessment Procedure) Ratings of 131A and 143A, the houses are in the top 0.01% of the UK's 14 million registered Energy Performance Certificates (EPCs). "It's an honour to have worked on such a progressive development which has sustainability at its heart. Electric underfloor heating is perfect for Howgate Close – its ability to significantly reduce energy consumption and lower people's monthly bills places it at the top for low-carbon heating," says Steven Rooney, Director at Gaia Underfloor Heating. Trusted by architects, contractors, M&E consultants, builders and developers, Gaia design, supply and install underfloor heating across the UK and Ireland.

01359 242 400 www.gaia.co.uk

Optimal comfort from Gilberts



An intelligent decision in utilising an intelligent spring could help improve occupant health and performance alongside savings in energy and manufacturing time. The "super spring" is a core component of Gilberts' latest GSJ adjustable thermal swirl diffusers. Utilising an advanced thermally reactive spring as a core component of Gilberts' latest GSJ adjustable thermal swirl, the diffuser now has a reaction time – and therefore temperature adjustment – occurring within seconds, verses other thermally actuated diffusers, which use wax technology, which can take up to 60 minutes. Triggered by the temperature of the incoming air (usually when it varies by 2°C from pre-set boundaries) the intelligent spring instantly adjusts the omni-rotational diffuser vanes, delivering warm air vertically and cooler air horizontally. This process ensures rapid initial warm up, and avoidance of uncomfortable draughts. Quickly controlling the airflow direction to maintain a comfortable environment in the internal space below, it only takes seconds to restore the equilibrium – whether through exposed ductwork, ceiling grids, clip-in ceilings or perforated ceilings.

01253 766911 info@gilbertsblackpool.com

An air of concern

In the drive towards airtight buildings, to conserve energy and protect the planet, Roy Jones from Gilberts Blackpool warns that the industry is failing to allow users – and the building – their ‘right’ to breathe healthy air

Say ‘indoor air quality,’ and we tend to automatically think about domestic properties with damp and condensation, as recently highlighted in news articles. We cannot forget it is just as relevant – and important – in non-domestic buildings from the offices and factories we work in, the hospitality venues we relax in, and the cinemas, museums and art galleries we enjoy.

The importance of control and balance of the indoor air quality (IAQ) cannot be overlooked, or forgotten. Indoor environmental quality (IEQ) must also be taken into consideration for the occupants – lighting, daylight, and noise for example. But far and above these is the quality of the air that we breathe.

An invisible problem

It doesn't help in that it is an invisible and somewhat indiscriminate problem. We wouldn't drink a glass of dirty water because we know of the dangers, but we can't see dirt and pollutants in the air we are breathing indoors. Given that we are spending around 90% of our time indoors, the air we breathe inside should be at least as clean as normal drinking water.

Despite sick building syndrome, and the spread of coughs and colds, most people still fail to associate those issues with poor air quality, yet they are all caused by airborne pollutants, which are exacerbated by inadequate ventilation. Up to 25% of infections as a result of surgical interventions come from an airborne route.

In factories and other industrial buildings, possible airborne pollutants are obvious. What about offices? Computers generate heat, and even the office laser printer emits ozone and other pollutants; all of which impact the IAQ.

Building Regulations Approved Document F (updated in 2021) and the Health & Safety Executive set minimum standards for ventilation taking into account the space's use (whether occupied



or occupiable, and the activity within). The Document addresses the other IAQ considerations, e.g. noise, and external pollutants such as exhaust fumes. Document F also raised the criteria to help improve IAQ, by requiring regular servicing and maintenance of ventilation plants including filters and CO₂ sensors. And it appreciates our changing needs, such as now including purge ventilation, reducing duct length (where pollutants can collect and multiply) and pushing for rigid rather than flexible ducting.

The changing climate – more spells of heavier rain, higher humidity and wetter winters – only exacerbates the issues for architects. Indeed, on a wet day, if we plan on opening a window to maintain indoor air quality, are we actually designing more moisture in than out?

Is there a simple answer?

The issue is more one of education,



The importance of control and balance of the indoor air quality (IAQ) cannot be overlooked or forgotten

making the world at large change their misconceptions that allowing ventilation i.e. air to circulate, and airborne pollutants and water vapour to escape does not mean all the heat is escaping too.

Build Tight Build Right (aka build tight, ventilate right) is fundamental, especially with the increasingly obvious impact of climate change and rising energy bills. Overriding it, IAQ should be the first question addressed when designing buildings.

It is the education of people at every step: the building owners, architects, contractors and occupiers.

Architects specifically play a key role in the initial process, setting the IAQ needs and requirements. Correct airflow/ventilation protects clients' health, the building fabric (reducing repair and maintenance bills), the occupants, and ultimately the planet. Contributing pollutants can be designed out of buildings.

Manufacturers are working on solutions, evolving systems that address the Document F guidelines (commercial versions of MVHR are a typical example), and taking the design aesthetics into account so the ventilation compliments and enhances

the overall scheme with special yet easily provided elements (such as illuminated coanda plates) or blending components/products seamlessly into the background via its styling and/or finish.

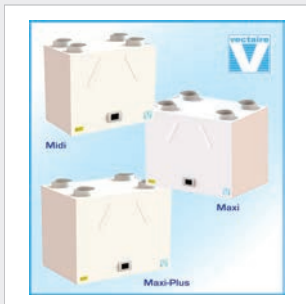
To pick up on an idea mooted during World Ventil8 Day, and going back to the dirty water analogy, maybe we all need to push for a public certification scheme for IAQ, similar to the Building Energy Certificates, BREEAM, LEED, or even the star for hospitality venues; something that goes beyond aspirational, to become a 'must have' for customers in addition to the established cleanliness rating?

With today's software technology such as Computational Fluid Dynamics (CFD), it is easy to model and validate the IAQ at the design stage, thus enabling fine adjustments to be made.

IAQ is a right. It is not something that should be ignored. It impacts our health, wellbeing and productivity wherever we are, and at all times. It is 'the air we breathe.'

Roy Jones is technical director at Gilberts Blackpool

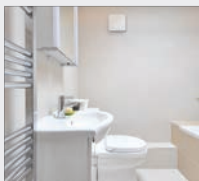
Ventilation for the built environment – combatting mould



Poor indoor air quality contributes to respiratory and allergy problems. Inadequate ventilation creates ideal conditions for condensation and mould growth. Vectaire's MVHRs help tackle these problems. Incorporating two fans they deliver low level continuous ventilation – extracting stale air from wet rooms, and bringing in air from outside. The two, separated airflows pass through a heat exchanger, recovering heat from outgoing air and filtering it before transferring it to the incoming, fresh air supply. It's then ducted to the living areas for a comfortable environment. The Midis, upright WHHRs, for loft or cupboard installation, are for residential properties up to 170 m². They recover up to 94% of the heat from extracted air and have variable choice of trickle, boost and purge speeds, with summer bypass and integral frost stat and are available with or without LCD and humidistat. The "AT" versions (sound tested by BRE) operate really quietly (sound levels down to <5 dBA). There are two other models in this range – the Maxi for areas up to 250 m² and the Maxi Plus for areas up to 400 m².

01494 522333 www.vectaire.co.uk

Envirovent expands its range



EnviroVent, one of the UK's leading ventilation manufacturers, has released two new and improved Decentralised Mechanical Extract Ventilation (dMEV) units, which are SAP 10 compliant and meet the latest Building Regulation requirements. The ECO dMEV+ range, includes the ECO dMEV+ and ECO dMEV+LC. Both are

SAP 10 listed, which means they meet the requirements of Approved Document L, Conservation of fuel and power, Volume 1: Dwellings, 2021 edition incorporating 2023 amendments.

0345 27 27 810 www.envirovent.com

Saniflo's new Sanicubic GR HP range



Saniflo has introduced two new models to its Sanicubic lifting station lineup. They offer a competitive balance between the popular Sanicom grey water lifting stations and classic Sanicubic models. The 1GR HP features a single pump, while the 2GR HP boasts twin pumps for uninterrupted operation. Designed to handle both grey and black wastewater, they incorporate Pro

XK2 grinder technology, an aluminium motor frame, and a robust Rotomoulder tank. These units offer easy maintenance access, adjustable motor power, and optional alarm or control boxes.

sales@saniflo.co.uk www.saniflo.co.uk

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Natural
Daylight



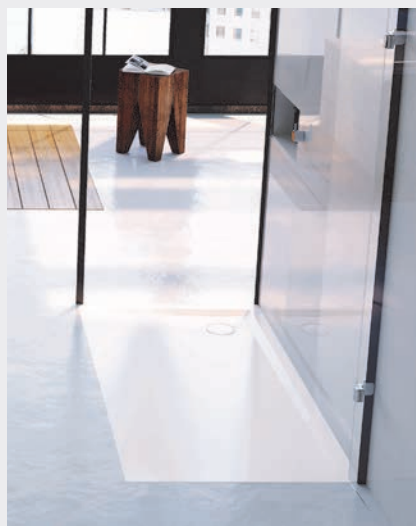
Moisture
Removal

* Terms and conditions apply. See www.passivent.com/nlg for details

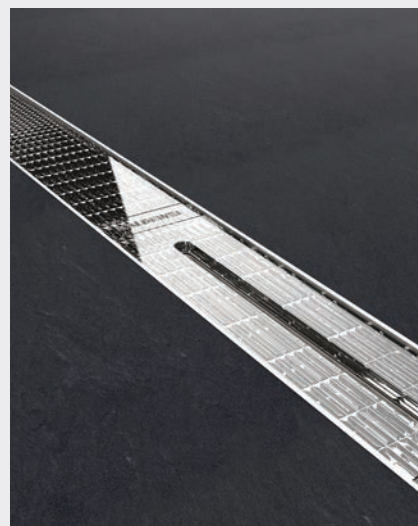
It's all about space for the shower

When creating a showering area, the focus falls on the shower tray or the drain channel if it is a wet room style shower. Kaldewei now offer both solutions. Known for their stylish steel enamel products Kaldewei have recently revamped their classic Superplan. With over a million sold it is one of Kaldewei's most popular floor level shower trays; and it now has an up-to-the-minute look with sharper edges, tight angles, and clean lines, plus the installation depth has been optimised to max. 25 millimetres. It is manufactured from recyclable steel enamel and is available in 41 sizes, standard colours plus the Coordinated Colours Collection, which creates a huge scope when it comes to design.

However, if the project requires a channel solution, Kaldewei has their own designed by Studio Aisslinger, it has patented handling and a unique Kaldewei system, that will make cleaning and maintenance easier than ever. The patented Click'n clean® mechanism of the new Kaldewei shower channel, has a cover that is easy to open and close making for – fast, hygienic cleaning.



The flexibility of the channel positioning offers lengths of up to 150 centimetres and thanks to sophisticated technology, the new shower channel suits almost any floor material in the bathroom.



FlowLine Zero is available in five surfaces including brushed stainless steel, champagne, gunmetal, matt white and matt black.

01480 498053 www.kaldewei.co.uk

Marmox Multiboard shapes up for East Midlands mini-mansion



The regional housebuilder undertaking the construction of a totally bespoke private house in Leicestershire has been introduced to the multiple benefits of Marmox Multiboards for the first time, but its operatives are so impressed with the versatile insulating backer boards that its site manager is certain they will feature in future projects. The detached property will offer its new owners three spacious en-suite bedrooms as well as an upstairs games room with its own bathroom, while the living space downstairs links to a pool room with jacuzzi, steam room and showers. There is also an eight car garage and other outbuildings. The timber framed dwelling furthermore achieves Near-to-Zero energy standards, to which the Multiboard also contributes. The developer of the exclusive property commented: "The contractors had never seen Multiboard before, but have found it light to handle, easy to cut and fix with stainless steel screws using the special washers, and are impressed with the further benefits – in particular the good insulation values. They will definitely be using it again."

01634 835290 www.marmox.co.uk

Refreshed Creation 55 LVT Essential Collection now boasts new Herringbone designs



The Creation LVT range from international flooring specialist Gerflor is an extremely well established, credible, world class brand that continues to appeal to Specifiers and Designers alike. The most popular designs and colourways, are branded as the 'Creation 55 LVT Essential Collection'. It's an all-in-one solution delivering inspirational and exclusive finishes, and which for 2023, now includes the stunningly beautiful Herringbone designs. The collection is stocked in UK, for fast delivery, when time is of the essence for building projects. When a customised interior is at the forefront of a Designer's eye, the need to explore the world of possibilities by mixing and matching colours with specific designs really becomes crucial. With Creation 55 LVT Essential Collection Mix and Match options, Designers can combine, contrast, or mix up finishes completely for a unique and customised floor scheme. The time has come to feel inspired with a vast variety of design possibilities. The collection offers a raft of boundless design perspectives, delivering first class quality, on trend, fashion-led designs that are made both accessible and incredibly easy.

01625 428922 www.gerflor.co.uk

Zentia unveils exciting new features to the Sonify range: elevating design and acoustic solutions

Zentia, a pioneering leader in ceiling systems, is thrilled to announce the highly anticipated launch of three new creative additions to Sonify. This innovative release introduces an array of cutting-edge features that redefine the possibilities of acoustic design, enhancing both aesthetics and functionality.

Launched on 6th September, these three new additions to the Sonify range enables architects, designers, and space planners to craft truly immersive environments that prioritise both form and function.

The update includes the introduction of Sonify Tilt, a solution for creating motion in design using angled panels, redefining precision alignment without the need for cable adjustments. The incorporation of 3D free-flowing materials opens up new avenues for captivating raft solutions, making spaces more engaging and visually stimulating. Installation is seamless and swift, and the innovative angles not only serve as design elements but also enhance sound absorption by disrupting sound waves and curbing reverberation within the environment.

Another addition is the introduction of Sonify Highway, which introduces an innovative design approach by allowing wider gaps between panels, emphasising the support grid as a prominent visual element.



The dual layer grid, available in an array of 35 colours, contrasts aesthetically with panel and soffit shades, injecting a personalised flair. Sonify Highway not only showcases the grid but also facilitates easier

access to areas requiring constant entry without the need for panel adjustments, allowing designs to evolve and reflect the dynamic nature of modern spaces.

Sonify Wall Absorbers are also now available, offering pioneering solutions in acoustic design. Sonify Wall Absorbers can effortlessly adhere to walls offering rapid and efficient installation. Architects and designers can leverage the panels as visual elements, combining multiple units to create patterns and infuse colour into the rest of the room. By achieving a vertical dimension of sound absorption, the wall absorbers deliver both acoustic and visual excellence.

John Spicer, Head of New Product Development at Zentia, expressed the company's enthusiasm about these exciting new features: "With these latest additions to our Sonify suite, we empower architects and designers to go above and beyond traditional acoustic solutions, and foster boundless creativity. Each component may seem small, but as a collective, they amplify design choices, offering a new dimension of individuality."



0191 497 1000 www.zentia.com/en-gb

Interior doors – make the white choice!



Dekordor 3D Cloud White door by Vicaima

Selecting the right internal door for your interiors project, has always been important. Whether from a practical, design or budgetary perspective, interior doors are integral to well-designed living spaces, providing space functionality and reflecting general ambience and mood within rooms.

Although we live in a world where colour pervades, sometimes simplicity in design can often be the secret to creating timeless appeal. One way to achieve purity within your decor, is with the use of flush white doors. White, with its inherent ability to rejuvenate and add a fresh clean look to modern interiors is widely recognised, however it does not mean that scope for differentiation is limited. The White Collection by Vicaima, demonstrates that taking this singular tonal path can also open up a whole new world of possibilities.

Bringing together some truly distinctive finish options in white, the White Collection by Vicaima, demonstrates that this fundamental hue is not actually a single colour, but has in fact a myriad of shades with both smooth and textural surfaces. Furthermore, doors can be embellished to allow even greater design flexibility, by the addition of decorative face grooves and inlays, or even glazed patterns.

There are many inspiring finishes within the collection, however some of the most notable include: Lacdor in Satin White, with its tough, ultra-smooth curtain coated and UV cured lacquered paint finish; Dekordor 3D Cloud White, a highly tactile and durable surface, Dekordor SD White Woodgrain finished foil, for a bright white budget friendly pre-finished door. Dekordor HD White, a continuous pressure laminate

for demanding areas and for those who still prefer to paint their own doors, Primed 2 Go, with its revolutionary skin that requires no face sanding or priming and which will accept paint straight onto its smooth surface, to achieve an excellent end result.

Few door manufactures offer such a comprehensive selection of crisp white designs as Vicaima. Available in the full spectrum of dimensions, incorporating the unrivalled dependability of quality constructional cores and with benchmark performance for demanding situations. Vicaima White doors suit all types of projects and budgets, so take a closer look now by downloading the brochure or request a colour sample of your chosen finish from www.vicaima.com

01793 532 333
www.vicaima.com

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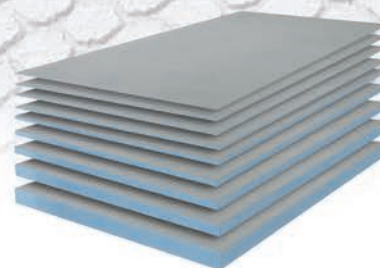
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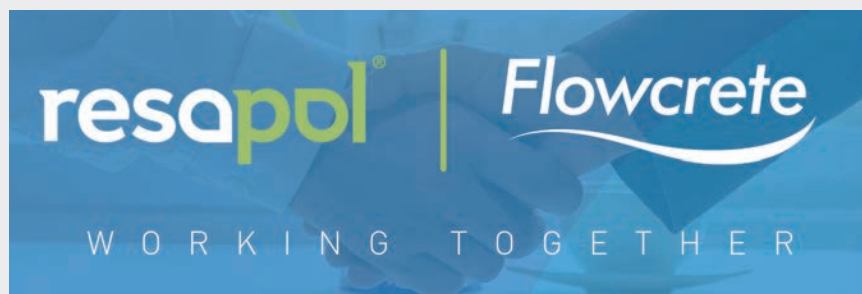
Resapol – working together with Flowcrete

Resapol announce they have signed a UK wide distribution agreement with Flowcrete, a brand of Tremco CPG UK, for the Flowcrete range of products.

For more than 50 years, Flowcrete's Isocrete Floor Screeds have been the product choice on some of the world's largest and most prestigious projects in both industrial and commercial sectors. Products in the range ensure a fit for purpose solution for all types of projects, with semi-dry cementitious, self-levelling and accelerated (fast drying) screeds available, all designed to deliver a solid foundation underfoot.

Stuart Smith, Tremco CPG's Flowcrete UK & Ireland sales manager, says: "With years of knowledge and experience among our flooring experts, Tremco CPG UK's Flowcrete are trusted to deliver high quality flooring solutions for any floor regardless of scale, scope, size, or sector.

"We are excited to partner with Resapol and to have them on board as a Flowcrete distributor. By partnering with Resapol, we are expanding our reach and making sure our customers have greater access to our



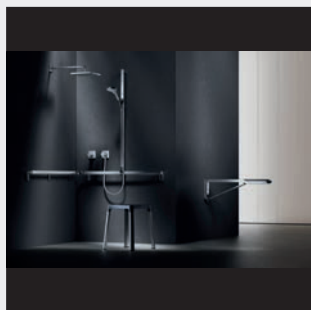
flooring products. I am confident that this partnership will open exciting opportunities for both businesses and propel us to new heights. Together, we will continue to deliver excellence and provide our customers with unrivalled flooring solutions.

We are proud of the strong technical and sales backing that accompanies our flooring product and system range. We ensure that each construction project is supported during the planning and design stages and the on-site support during the construction phase, helping us to reach the desired result time and time again."

Tim Absolom, Resapol National Flooring Sales Manager commented, "We look forward to working with Stuart and his team in this partnership, I am confident that together we can service our customers with the extensive Flowcrete range in a professional and timely manner. All of our staff are highly trained on the Flowcrete range and are on hand to offer advice when choosing the correct products. We know that you can trust Resapol and Flowcrete for your next project."

0800 083 1942
www.resapol.com

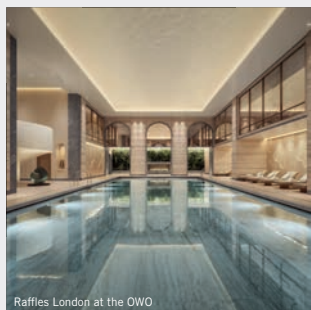
KEUCO AXESS



Stylish bathrooms should be available to everyone and now they can be. Studio F. A. Porsche has collaborated with KEUCO, the result is AXESS a striking barrier-free range; a sustainable and cross-generational concept made of high-quality materials for the comfortable and safe use in all areas of the bathroom – not only for the elderly, those in need of care or for people with a physical disability, but for all generations. Intelligent details support independence and autonomy in the bathroom; all types of people and age groups can benefit from comfort-enhancing functions. What is a useful aid for one person is an additional comfort for another, such as taking a shower whilst sitting down. The visually appealing folding support rail stands uniquely flat against the wall when folded up; looking nothing like folding support rails of the past, available in three finishes: chrome, matt black or aluminium-chrome, the folding support rail is also suitable for larger wheelchair-accessible WCs. The optional and retrofittable radio WC flush actuator integrates aesthetically into the handle and is compatible with radio flush cisterns from common manufacturers via Bluetooth.

01442 865 220 www.keuco.com

Schlüter-Systems to showcase hospitality range at HIX, London



Schlüter-Systems will be exhibiting at this year's HIX show on 16 & 17 November. With an extensive portfolio including underfloor heating, tile trims, shower profiles, shelves and waterproofing systems, all backed up by industry-leading service, expert advice and a collaborative approach to finding clients the right solution for every application, it's not surprising Schlüter-Systems' products and services have been specified in many luxury hotels, including the newly opened Raffles London at the OWO. Visitors to the Schlüter-Systems stand can discover the endless design possibilities of Schlüter-LIPROTEC illuminated profiles for ceramic or natural stone coverings. Also on show will be Schlüter-KERDI-BOARD-W, a fully customisable, prefabricated washbasin. Lightweight and easy to handle, KERDI-BOARD-W is immediately ready to tile, saving time and costly mistakes. These are just a couple of the many solutions on offer at the stand that will help make hospitality bathrooms and spas not only look amazing but will ensure they are reliably waterproofed for years to come.

www.schluter.co.uk

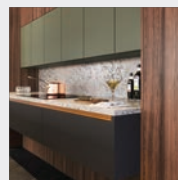
F. Ball raises the bar at Leek Town F.C.



F. Ball and Co. Ltd. has helped to refurbish the hospitality suite at its local football club, Leek Town F.C., as part of its long-standing support for the team. Named the 'Blues Bar', after the team's nickname, the venue overlooks the pitch and is used by fans on matchdays, as well as for special functions and events. The 180m² subfloor comprised both asphalt and sand / cement screed, with old adhesive residues left behind after the removal of previous floorcoverings in some areas.

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

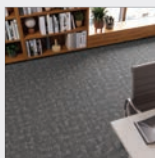
The height of luxury with Marbling Moods



Classic styles are still very much on trend, and Keller's all-new Marbling Moods (pictured) kitchen is a clear sign that this admiration is unlikely to disappear soon. This kitchen maintains modern utility, form, and function alongside its retro design. The suspended cabinets are easy to access and emphasise spaciousness and accessibility, while the island, shielded in marble, features a sink for both classical style and pragmatic benefit. The Watford door blends well with the rest of the kitchen, thanks in particular to its handle-less design.

www.kellerkitchens.com

New Tessera Harmony range



Forbo Flooring Systems is delighted to introduce Tessera Harmony – the third and final range, joining Tessera Infused and Tessera Accord, in the Tessera Union collection. A series of affordable and available carpet tiles created to address design needs in modern commercial spaces, as well as promoting well-being and productivity within workspaces or learning environments. Made and stocked in the UK, Tessera Harmony is a calming and organic range with a soft and balanced design, comprising 12 warm colourways, each designed to tonally blend with one another.

01773 744 121 www.forbo-flooring.co.uk/tesseraunion

Dulux unveils its Colour of the Year 2024

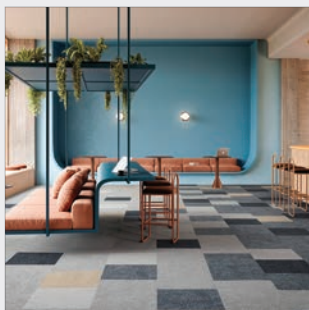


Dulux has announced its Colour of the Year for 2024, Sweet Embrace™. The colour is a delicate, optimistic and modern tone that is understated and comforting and brings a sense of stability and softness to a space. To complement Sweet

Embrace™, Dulux is also launching three versatile colour palettes to provide architects, specifiers and designers with a wealth of colour inspiration when creating beautiful spaces in any sector.

0333 222 70 70 www.duluxtrade.co.uk

Put the personality in offices with Pattern



Made up of three structured loop pile designs that express the personality of working experiences, Pattern is the new carpet tile collection from IVC Commercial that's here for the rise of agile workplaces. Whether seeking the sense of security provided by structure and routine, the ability to flex with the task in hand or to work wherever and whenever; the new Pattern carpet tile collection interprets these experiences in three structured carpet tile designs. Its designs – Balanced, Tailored and Unchained – are explorations of modern approaches to work that can be used in offices to create an interior that supports different ways of working. So, if you're looking to create zones that support activity and collaboration or to reflect a company's unique personality, Pattern is a flexible carpet tile that can do it all. Mix and match 16 inspiring and functional colours, select different designs in the same colour, or choose one design and colour across the space; whatever you choose, Pattern will bring personality to modern office interiors. See samples of the Pattern collection at IVC Commercial's London workplace, The Gallery Clerkenwell, or order through the website.

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

Mapei resilient system promotes safety & speed at Wavendon Community Hub

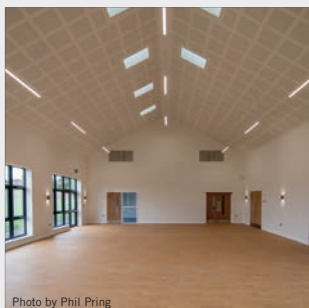
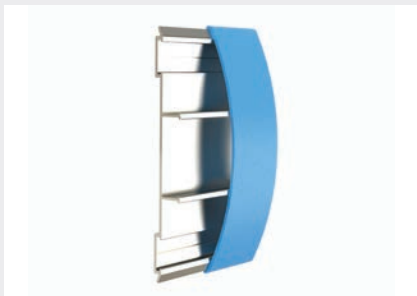


Photo by Phil Pring

Mapei preparation products have been used to complete an Altro floor installation at a new community venue in Buckinghamshire. Works were completed by Borrás Construction Ltd, with sheet vinyl and walkway flooring installed throughout by HC Coverings Ltd, using Mapei floor preparation products and EMICODE EC1 Plus-certified adhesive. Resilient flooring was specified throughout the centre and installed over underfloor heating. During preparation works, Mapeproof One Coat damp proof membrane was applied over the sand and cement screed to suppress residual and construction moisture. Eco Prim Grip Plus – a ready-to-use low odour/solvent-free primer which enhances bonding, was then applied, followed by Latexplan Trade levelling and smoothing compound – a protein-free, low odour formulation with high compressive strength. Flooring was installed with Ultrabond Eco VS90 Plus – a hard, fast setting wet bed dispersion adhesive with high shear resistance and a EMICODE EC1 Plus-certified formulation with very low emissions.

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

Yeoman Shield launch new protection rail



Yeoman Shield launch the new Ellipse Protection Rail to complement their range of renowned wall and door protection products.

Designed with a curved contour the Ellipse Protection Rail offers an aesthetically pleasing and ultimately durable bump rail which protects interior walls from impact damage caused by the movement of people, wheeled equipment, trolleys, and beds.

The profile of the rail, coupled with a PVCu finish, is the perfect option when it comes to maintaining high hygiene standards which is sustained throughout the product by

way of an Aluminium core. The Aluminium core, though lightweight, offers strengthened resilience, fending off impact damage whilst the PVCu cover is quick and easy to clean with the use of everyday cleaning products.

Ellipse Protection Rail is 200 mm wide providing generous coverage to spare the wall above and below the rail from marking, denting, and scratching. Fitting at a height that receives the most impact will give optimum protection benefits.

An ideal product for communal areas and zones which receive a high quantity of traffic in environments such as healthcare,

education, leisure, retail, and manufacturing facilities.

Dovetailing into décor or establishing a contrast to interiors the Ellipse Rail is available in standard colours – Light Grey, Mid Grey, Dark Grey, Graphite, Royal Blue, White – with other colours available from the Yeoman Shield range, subject to quantity.

The Yeoman Shield Ellipse Rail will prove to be a competitive rail in the market offering a simple yet effective solution to stopping impact damage to walls.

0113 279 5854 www.yeomanshield.com

Luceco's Purrfect Lighting at The Cats Protection Glasgow Adoption Centre



Since 1927, Cats Protection has become the UK's leading cat charity helping over 1.5 million cats find new homes through a national network of over 200 volunteer-run branches and 34 centres. Luceco has recently supplied energy efficient lighting to the Cats Protection Glasgow Adoption Centre. Acting as a subcontractor to Principal Contractor Scotwood Interiors, Electrical Solutions (Scotland) Ltd located in Rutherglen completed the lighting installation using modular LuxPanels, surface mounted Sierra bulkheads, linear IP65 rated Climate fittings and recessed Carbon and Platinum Mini downlighters with IP65 diffusers. The installation included recessed ceiling day and night PIR motion sensors and presence / absence dimming detection to assist with the energy efficiency of the building and for the comfort of the occupants. The recessed mounted switching DALI PIRs also offered scene setting which is simply programmed with a handheld remote control. The addition of lighting controls to an installation ensures considerable energy costs savings as well as a straightforward method of reducing an organisation's carbon footprint.

01952 238 100 www.luceco.com/uk

Quantum Flooring Floormitres



The Northern Health and Social Care Trust and The Southern Health and Social Care Trust are two of the largest healthcare associations in Northern Ireland. Among the facilities under the Northern Trust's control is Causeway Hospital in Coleraine. The Southern Trust has Craigavon Area Hospital as one of its major healthcare sites. The hospitals needed new flooring to be installed throughout the buildings. The floorcovering would need to be made from a resilient material such as vinyl, making it easy to maintain high standards of hygiene. H&J Martin decided to use Quantum Flooring's CCFM1 internal and CCFM2 external floormitres to help protect the flooring around corners in the hospitals. Vinyl or other resilient floorcoverings can be particularly vulnerable where the flooring meets the wall at corners, as it can be difficult to mitre the angles correctly. These floormitres help to create a uniform finish every time, leading to greater structural integrity along with improved aesthetic results. Quantum's QCF35 cove former was utilised to complement the CCFM1 and CCFM2. The UCS3 slimline flexible capping strip was used to create neat finishes to the floorcovering.

0161 627 4222 quantumprofilesystems.com/en/brands/quantum

Is it time to push for built-in accessibility?

Do you advocate accessibility? Are you driving inclusivity through your design practice? Current statistics make disappointing reading; just nine percent of English housing stock offers basic access, and considering one in five residents now live with disability, and over 11 million people are aged over 65, that is anything but inclusive. Consequently, the architect's role in championing change has become more vital than ever. Yola Mealing, Head of Brand & Communications at Stiltz Homelifts, looks behind the statistic and highlights how the homelift could be the pivotal product which accelerates domestic accessibility.

The need for change

It's thought in around 20 years time over a third of households will include a resident over 65 years of age. As the UK demographic ages, the need for accessibility at home will grow. Ill-health and reduced mobility could potentially be further exacerbated by social and economic factors outside the control of the individual. And these could ultimately affect independence at home for those in younger age brackets too.

Importantly, when movement around the home is curtailed, people tend to be restricted to using only a handful of rooms, especially when stairs – the first indicator of poor accessibility – become unmanageable. This in turn leads to a lack of self-worth, isolation, and depression.

Disability is also on the rise. Today, there are 16 million adults and children with a registered disability. This is an increase of 5% in the last decade alone, including 1.2 million wheelchair users. These figures make concerning reading when we consider the current limited accessible-housing stock.

Is it therefore time for architects to help raise the profile of campaigns which push change in accessible living?

Shifting policy and practice

The recent launch of RIBA's Inclusive Design Overlay for Plan of Works is a starting point in advocating for suitable housing for all. It is only one piece of the puzzle though. Amy Francis-Smith, Architect and Accessibility Expert, fully supports this new RIBA overlay however she recognises there are many more challenges to overcome: "The profession welcomes the accessible and adaptable updates to the Building Regulations M4(2), but when will progress be made on the wheelchair accessible M4(3) classification?"



Development of accessible homes remains frustratingly slow and when faced with the stark statistics regarding ageing and disability, I feel action needs to be taken by fellow architects right now."

"And it's not just specialist 'disability' properties which needs to improve, we need to prioritise making mainstream housing more accessible," continues Amy. "By planning in advance, we can build in futureproofed and accessible features for the inevitability of ageing, and with wheelchair users in mind. This will reduce the need for specifying retrofitted equipment and the associated delays the process brings, and make providing homes fit for purpose quicker, more straightforward and cost-effective, and importantly for the end-user, far less stressful.

Seeing the bigger picture

Until a holistic, country-wide solution is developed, current options remain limited. It's possible to create a bedroom and bathroom on the ground floor using existing rooms, removing the need to use stairs. But at what emotional cost? Living space is compromised and the proud resident will struggle with a loss of self-esteem and privacy. The alternative involves building a single storey extension but with current costs, estimated at between £30,000 and £140,000, it is an investment out of the reach of many.

Homelifts to the fore

Internal stairs remain the number one access difficulty for multi-level houses owned or rented by older and disabled people.

In most applications, a homelift will solve the issue of stairs, period. Previously served by a category known as through-floor lifts, it took UK-based company Stiltz to bring the term homelift to a wider audience. They created a product range designed specifically for the home sweeping aside the failings of commercial through-floor lifts which had to previously be shoehorned into domestic settings.

Amy agrees "Using key access products like an in-home lift, means families don't experience the costly and often heart-breaking process of moving away from their much-loved home and neighbourhood. I do get asked 'why a homelift and not a stairlift?' I'm always a bit cautious about stairlifts; they are often an emergency purchase rather than a considered decision based on genuine user need. They can sometimes have a negative impact on the rest of the household as well."

As the lead player in the homelift category and a voice calling for early adoption of future-proofing by introducing pre-cut aperture spaces into all new build ceilings, Stiltz remains ahead of the curve with BIM-ready files in production and a proven commitment to architectural best practice.

Amy concludes: "Future-proofing is key, especially for ageing in place which I feel is so important for our society. Architects, designers and specifiers ... and their clients ... will really benefit from more thorough investigations into the innovative options available."

info@stiltz.co.uk www.stiltz.co.uk

Statement sustainability with Rusticork



With its true bark texture, RUSTICORK from Granorte brings an original, bold and raw aesthetic to walls. The RUSTICORK collection of panels by Granorte create natural, bold and beautiful walls that come directly from the renewable bark of cork trees. Available in a range of striking decorative effects, all remaining true to the natural textures of cork bark, RUSTICORK is a one-of-a-kind wall finish. Granorte has used pigment dyes to bring even more creativity to the collection, enhancing striking textures in colours such as Bluemoon, black, ash grey, terracotta and warm white, as well as natural bark. The panel is made from pieces of raw cork bark – faced to an agglomerated cork backing for Sandstone and Bark textures – for a product that's natural and renewable, as well as close to original. Paulo Rocha, Granorte, says: "Our range of cork products use processed waste product, but with RUSTICORK we've gone one step closer to harnessing the original material in its purest form. Taken directly from the harvest of cork bark, we select individual pieces and apply only what we need to create a functional and decorative wall panel."

01952 443 555 www.granorte.pt

Nottingham E-sports competitors protected by FIREFLY® barriers



While concrete walls and Armco barriers are conventionally used to help protect drivers and spectators at motor racing circuits around the world, products from the range of FIREFLY® have been specified to provide the necessary fire protection periods within an East Midlands venue which has become a focus for E-sports enthusiasts in the UK. The work at The Metronome in Nottingham is being carried out by one of FIREFLY's approved installers on behalf of the venue's operator, Confetti Media and is making extensive use of the manufacturer's FIREFLY® Zeus Lite 90:30 barrier, along with the Collaroll product to create compartmentation throughout a basement area, and as parts of The Metronome are also used by Nottingham Trent University and its students as a recording and production studio, Krasi Fire Protection Ltd.'s contract is in fact being phased – with work due to complete to work around the academic year. Manufactured from woven and non-woven glass, the FIREFLY® range is designed to optimise resistance to flame and smoke as well as offer heat protection in a wide range of scenarios.

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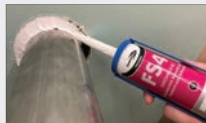
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Going beyond fire compliance

Siderise's Chris Hall asks whether an approach of merely complying with regulations in specifying passive firestopping in curtain wall systems is good enough, or if specifiers should be looking to other standards

Curtain wall systems are typically constructed with a gap between the facade and the floor slab to allow for building movement, with the addition of a fire seal solution to ensure passive fire safety. However, with two 'test paths' to compliance available, it is vital for specifiers to understand the accuracy of standards on the real-life performance of products.

The two 'test paths'

Approved Document B (England and Wales), Technical Handbooks Section 2 (Scotland) and Technical Booklet E (Northern Ireland) all offer two test paths to compliance for the fire resistance of perimeter firestops. These are, firstly, BS 476-20 – 'fire tests on building materials and structures – method for determination of the fire resistance of elements of construction (general principles)'. The second is EN 1364-4: 2014 – fire resistance tests for non-load bearing elements via classification standard EN 13501-2.

The significant differences in scope, methodology and evaluation mean that these two paths are not equivalent, and choosing which test method is the most appropriate will depend on the real-world demands of the application.

Product vs system

Published in 1987, BS 476-20 is a small-scale, static test that requires an insulation product to be installed between two concrete lintels within a furnace and subjected to defined heating and pressure conditions to establish its fire resistance (integrity and insulation) rating. While it offers a basic understanding of a product's standalone performance, the test is designed to be generalised and therefore cannot give a clear indication of a product's ability to resist fire in its intended application.

By contrast, EN 1364-4 is a 'part configuration' test that applies to 'Type A' non-fire-rated, and the less commonly used 'Type B' fire-rated, curtain walls. It

examines the resistance to internal and external fire exposure of the complete spandrel system for the test duration; (including the spandrel panel, perimeter fire seal, fixing of the framing system used to attach the curtain walling to the floor, or combinations thereof.) The test's wide scope means it can be used for different kinds of curtain walling constructions.

This systemised approach is much more reflective of a true spandrel construction, especially where the test assembly is also subjected to movement cycling (in accordance with EAD – European Assessment Document - 350141-00-1106) before fire testing.

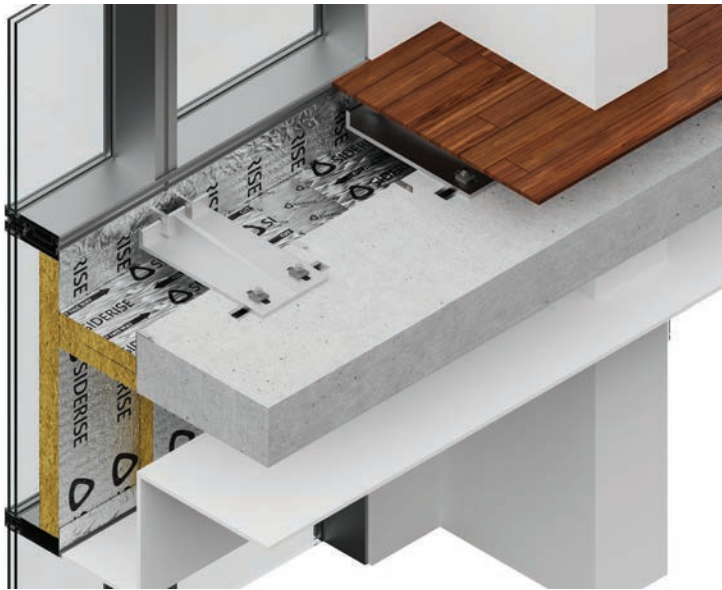
The EAD requires that the perimeter fire seal is subjected to a minimum of 500 cycles between the minimum and maximum joint width, to simulate wind sway, seismic activity and thermal loads, at a rate designated by the test applicant. It is not compulsory, but it is required for CE marking when claiming a >7.5% movement capability, and there are only a select number of perimeter firestops on the market which have been tested and certified to this EAD.

Such testing is crucial to demonstrate that the perimeter firestop is capable of withstanding in-application deflection and dynamic movement without degrading, and thereby able to maintain its ability to achieve the required fire resistance over the building's life. The results offer a clearer understanding of the fire resistance in terms of not only how the perimeter fire seal will perform as a product, but also how it will interact dynamically with other components of the spandrel under fire conditions.

Third party assurances

Whatever the route and standard used, it is advisable to validate fire test data with third-party certification from an accredited body, to provide confidence in the performance and consistency of the products. Gaining certification requires





rigour, and usually involves reviewing product test data against appropriate standards and requirements, and submitting samples for analysis and comparison. Ad hoc factory visits and audits may also be carried out, and certification withdrawn, and re-testing required if any significant changes are observed.

Systematic thinking

The holistic approach to spandrel zone protection encouraged by standards such as EN 1364-4 also helps to better support fire and structural safety. While the UK regulations do not ask for passive fire protection beyond installing perimeter firestops and linear gap seals, in other jurisdictions such as the UAE, it is common practice to also protect the spandrel panel.

Although perimeter firestops are effective at inhibiting fire and smoke spread, compartmentation relies on them being able to maintain their fit between the floor slab and facade. A part of this is being able to withstand movement, however, they also need to abut to a stable structure that can withstand elevated fire temperatures for a satisfactory period.

Aluminium mullions and transoms that are often used in non-fire rated curtain wall systems can deform in the high-intensity heat of a fire, jeopardising the structural integrity of the spandrel and the system. This can lead to gaps forming between the facade and slab edge, opening paths for fire, smoke, heat and gases to spread.

To reduce this risk in aluminium systems, a fire-resistant board made of dense, non-

Although perimeter firestops are effective at inhibiting fire and smoke spread, compartmentation relies on them being able to maintain their fit between the floor slab and facade

combustible insulation that shields both the spandrel panel and the mullion can be used, alongside a perimeter firestop. This helps to preserve the integrity of the assembly and the stability of the curtain walling framing system, therefore allowing the firestop to perform its compartmentation function.

Guidance & future developments

The Association for Specialist Fire Protection (ASFP) has been recommending that linear gap seals used in curtain walls are “only tested to EN 1364-4” since 2014, and the Centre for Window and Cladding Technology (CWCT) announced in 2022 that it plans to update its guidance in Technical Note 98 to recommend that curtain wall fire stops should be tested in accordance with the standard. The proposed approaches are to use the firestop within the field of application of the test or within an extended field of application using EN 15254-6 to further widen the scope for approval.

Additionally, in a recent consultation which closed on 17 March this year, the Government sought industry views on removing national classes from Approved Document B. The responses are still being analysed, but if this goes ahead, EN 1364-4 would become the only test path to compliance.

Going beyond

Curtain wall facades are complex, with their overall performance reliant on the interaction of many different components. Selecting complete spandrel protection systems, which have been developed and third-party tested as full-system solutions, can help projects go beyond regulation compliance, and thereby adequately safeguard the lives and livelihoods of people using the buildings for lifetime.

Chris Hall is external affairs director at Siderise

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Advanced Fire Protection flips the script for iconic former film studio

A shared use office and retail space at the landmark former home of British Pathé is now being protected by Advanced. 360Fire designed and commissioned a new Advanced fire alarm system with phased evacuation as part of a wider restoration and refurbishment project which will see the creation of a number of workspaces, including private offices, office suites and full floors, alongside social areas and retail units.

Located at 142 Wardour Street, Soho, Film House was once at the heart of London's 'film row'. By the late 1940s it's estimated that up to 100 film companies occupied the street, including Warner Brothers and 20th Century Fox.

Taking design responsibility for the project, 360Fire worked with Mechanical Services Ltd (MSL) who installed four, four-loop Advanced MxPro 5 panels and one repeater panel alongside Hochiki detectors, covering all six tenanted floors of the building.



Selected for their open-protocol nature, the panels are integrated with a voice alarm system allowing for phased evacuation, with lifts operating on a dual signal to the ground or alternative floor, depending on fire location. An out of hours override activated via the panel's function button cancels the phased evacuation and enables the system to revert to a 'one out all out' system with no delays. Further integration with the building's BMS enables control over sprinklers, door access, lifts, and smoke vents.

The system also makes use of MxPro 5's stand-out false alarm management capabilities. Available as standard on MxPro 5 panels, AlarmCalm delivers unprecedented control of verification and investigation delays. By dividing sites up into virtual false alarm 'building areas' independent of fire zones, much more precise control of false alarm management and reduction strategies can be achieved, that exactly fit the needs of each part of a building. An optional AlarmCalm button allows trained occupants to verify if they believe a local fire signal is a false alarm too – a highly effective way of eliminating unwanted alarms.

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Believed to be the world's tallest modular building Tide Construction's Enclave residential development at College Road Croydon has needed to put fire safety as a top priority.

The interconnecting twin towers, reaching 35 and 50 storeys which top out at 158 m high, constitute one of the world's largest co-living schemes providing over 900 residences. The volumetric construction has focussed around central columns to which the modular units have been connected to deliver 817 co-living and 120 affordable homes.

Keeping the residents safe is a smoke ventilation system designed and installed by Orion Contract Services, which centres on 200+ S60 smoke evacuation dampers designed and manufactured by Gilberts Blackpool.

The smoke shafts make use of the central columns to efficiently remove noxious fumes from the building should a fire break out. Gilberts' EN12101-8 and EN1366-10



compliant S60 units have been strategically fitted on every floor to contain and channel the smoke, delivering up to 120 minutes' fire integrity.

In the event of a fire, a powered motor triggers the units on the fire floor to open, and the S60 units on all other floors to failsafe

close to contain the smoke within the riser and protect the other storeys.

"In such a tall residential building, fire safety is paramount," explains Orion Contract Services managing director Craig Edwards. "Gilberts dampers are my product of choice. They are fully certified, easy to install and well priced. They tick all the boxes for me."

The S60 and its counterpart S61 range of smoke evacuation dampers builds on Gilberts' 60+ years' heritage of bringing to market advanced technology that enhances the design, installation, energy efficiency and occupier comfort of non-domestic buildings.

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Casting cast stone in a new light

Devanshu Mudgal at Haddonstone explains why the durability of cast stone enables it to play an environmentally-responsible role in a wide range of construction projects



The cast stone steps and flooring manufactured today can be expected to offer a maintenance-free life of many decades



For anyone who has stood and marvelled at the beautifully preserved floors within the 4th century Roman villa at Chedworth in the Cotswolds, it is worth remembering that these extensive areas of mosaic, set in mortar, are among the later examples of the artform to be found across Europe. Some date back over 2,000 years, having survived everything from being buried in volcanic ash to submersion in aggressive groundwater.

The durability and longevity of the mosaics' structure are important to consider, because they shed light on the true environmental impact of many cement-based products. Manufacturers of cast stone products can rightly argue that the energy required to convert limestone and clay into the ubiquitous grey powder employed across the construction industry should be viewed in the context of their whole life sustainability credentials.

Contemporary cast stone as a construction material

Contemporary cast stone products such as cills, lintels and string courses may not be destined to survive for millennia, but they bear very favourable comparison to common construction materials including PVC extrusions or energy intense aluminium components.

While some cast stone manufacturers use just a pigmented sand and cement mix for their production runs, finely graded limestone, such as Bath stone, is recognised as offering the best outcomes. Semi-dry cast stone incorporates 60% crushed limestone and a 2% water content to achieve a minimum design strength of 35N. Waterproofing admixtures reduce moisture penetration and, along with vapour curing, help protect against frost while also accelerating the gain of strength to enable products such as quoin stones

to offer excellent durability and general resistance to weathering.

The so-called wet cast process also features a 2% water content, with the increased slump and workability being created using 'super plasticisers,' making the mixes self-compacting. In addition, the target compressive strength rises to 45N, without any need for vapour curing, further enhancing the likely lifespan of cast stone products.

In fact, cast stone steps and flooring manufactured today can be expected to offer a maintenance-free life of many decades, while items such as copings – which are permanently exposed to the elements – should provide solid service for as long as the walls that they sit atop remain standing.

A sustainable option

Research has further shown that the extended working life offered by cast stone means that its embodied energy becomes insignificant, while the natural process of carbonation – where carbon dioxide is absorbed from the atmosphere and changes state – constitutes a form of carbon capture. Then from a local perspective, the fact that most projects here make use of products manufactured in the UK means the energy involved in transportation is also minimised. In addition, production standards and supply chain monitoring are higher than in many other countries from where products are imported.

There is an industry-wide consensus on the need to improve environmental performance, underlined by the UK Cast Stone Association announcing the launch in May this year of its Sustainability Charter – whereby the membership has committed to adopting a series of measures, including cutting waste, pollution and energy usage. The UKCSA will also work constructively

with other organisations to deliver sustainable policies and practices.

It is one of the responsibilities of the building industry's heavy-side manufacturers to look to cut wastage of energy and resources, both within their supply chain and their distribution networks. In the case of cast stone specialists, this means ensuring their sources for limestone as well as other aggregates are properly assessed for their own environmental performance though it is important to realise that, unlike cut masonry, cast stone presents an ideal use for much of the smaller quarried material which would otherwise go to spoil heaps.

Reducing energy use within the factory is key with many manufacturers investing in new generation machinery and renewable energy sources such as solar panels. Considerable efforts are also being made to find ways to recycle production waste – including when mixers have to be purged of leftover material for a change in colour.

Then, from the factory gate to the end customer, there has been a real focus on using cleaner transport, as well as transport management strategies and software which optimise the use of lorries and other

vehicles. This includes employing national carriers for small consignments, switching to reusable packaging where possible, and dispatching products on wooden pallets.

Investing in research

Returning to the subject of cement and other constituent raw materials, there are research projects currently in progress involving leading members of the UKCSA and universities, including University College London (UCL) and Cranfield University. It is hoped that these academic-industry alliances will lead to the development of viable cement replacement products and alternative, carbon neutral aggregates.

Cranfield University is also overseeing a PhD project that aims, among other goals, to define the carbon footprint of cast stone and reduce it. This has the potential to deliver further carbon reductions and give specifiers confidence that cast stone can play an environmentally-responsible part in many types of construction projects.

Devanshu Mudgal is senior systems engineer and sustainability adviser at Haddonstone



There is an industry-wide consensus on the need to improve environmental performance



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This direct fixing method is essentially the same as internal tiling and can be used for patios, terraces or driveways.

The caveat being that expansion joints need to be incorporated into the subfloor, and falls will need to be added to ensure rainwater drains away fully. An effective DPM should also be incorporated into any direct-to-earth subfloors.

If needed, BAL Level Out can be applied onto concrete pads – as long as they are fully cured, free from efflorescence, laitance, dirt and other loose materials. It can be applied from 2mm to 30mm and is ready to receive tile adhesive after approximately 3 hours.



However, BAL XL Floor One tile adhesive can be used directly onto tamped concrete slabs or BAL Level Out if levelling is needed – with no priming needed.

XL Floor One has been designed specifically for use with large tiles and external 2cm porcelain as it can be built up to 25mm in bed depth. Fully pourable, with a thixotropic nature, BAL XL Floor One provides excellent coverage on the back of the tile or paver – without the need for back buttering on flat

surfaces, saving contractors time and money. BAL XL Floor One has a pot life of 1.5 hours, open time of 1 hour and sets overnight in 6-8 hours for fast-track project completion. This ensures that large slabs can be fixed and maneuvered into place easily, without fear the adhesive will skin over or go off in the bucket.

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