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FROM THE EDITOR



T's great news that global architectural star Sir David Adjaye has finally been presented with the RIBA's Gold Medal for Architecture for 2021, following the confirmation of the accolade last autumn. This cements his place as the 'man of the moment,' having been the designer of probably the most important building – in terms of its cultural resonance – yet completed this century, the Smithsonian Museum of African American History and Culture in Washington DC.

The building, as has been widely reported, tackles the legacy of slavery but also ongoing racism in the US, as well as progress, head on. Offering free entry to maximise participation, it was completed at the very end of Obama's tenure, but was seeing floods of visitors coming to the nation's capital as Trump's divisive reign began. Sited not far from the White House, the Capitol Building and various other white marble civic structures, the museum's striking dark, bronze latticed form has an obvious allegorical power. You'd like to think it was a cautionary, perhaps chastening sight for Trump, but perhaps it's more likely to be one for subsequent US leaders. It now sits as a pivotal piece of architecture, in the context of George Floyd's murder and the Black Lives Matter movement.

He is the kind of architect, perhaps uniquely in modern times, whose profile brings out the likes of Bono and former South African president Thabo Mbeki, for better or worse, to sing their praises at the virtual medal ceremony. The latter's policies of denial on AIDS had been somewhat at odds with Adjaye's laudable campaigns with Bono to increase use of retroviral drugs in Africa. This makes Mbeki's praising the architect now he's been anointed somewhat confusing, until you realise Adjaye's at the helm of the former president's new library project.

The AIDS campaign makes it easier to forgive Bono quoting his own lyrics to attempt to celebrate Adjaye, and making momentous-sounding pronouncements like he has "created spaces unlike any the world has ever seen." The veracity of such a claim may unfortunately be decided by the Twittersphere, rather than the experts.

It's sadly no surprise that the charismatic 54 year-old is the first black architect to win the RIBA prize, in what remains a fundamentally ethnically unbalanced profession, at the top level at least. The loss of Zaha Hadid was all the more painful given that her Iraqi heritage increased diversity for a while at the top flight of UK architecture. Graduating from London South Bank University in 1990, Adjaye decided to found his own practice in 2000 because of the lack of equality he discovered, and perceived as a barrier to success.

It's not all been plain sailing for Adjaye, despite his meteoric rise. One of his relatively few major UK projects, the scheme to create a Holocaust Memorial in a small park next to the Houses of Parliament, has been slammed by critics. A similarly highly-charged scheme to the Smithsonian Museum, both in terms of content and siting, it was attacked for potentially overwhelming the space, but also for not being big enough to do justice to the subject. Such are the problems of trying to place something so important in a dense built environment to achieve maximum impact; in the ongoing inquiry, the brief has been the target of most of the criticism, not Adjaye.

There will always be contending views around such politically fraught schemes, but what's clear is that a British-Ghanian architect, unflinchingly

bringing strong, cultural messages into high-profile projects worldwide to wide acclaim, is something to be proud of.

James Parker Editor



ON THE COVER...

Designed by MVRDV, WERK12 is a mixed-use office, culture and entertainment complex in Munich that playfully incorporates references to comic books in statement 5 metre letters across its facade.

Cover image © Ossip van Duivenbode

For the full report on this project, go to page 24









RESIDENTIAL

Boutique apartments for King's Cross

A "boutique" residence called Luma, comprising 61 apartments in the heart of King's Cross, and designed by architects Squire & Partners for UK developer Argent, with interiors designed by Conran and Partners, recently opened its doors to occupiers.

Located between Lewis Cubitt Park and the Jellicoe Gardens, Squire & Partners designed a scheme that "respects the surrounding natural context and connects with the emerging cultural and creative neighbourhood," said the practice. "A nod to the former industrial character of King's Cross, the form is expressed as a pair of stepped warehouse style buildings with a delicately layered facade."

A pattern inspired by converging railway tracks combines with a secondary layer emulating dappled light created by a tree canopy, resulting in an "organic pattern" used on decorative lattice screens, bas-relief aluminium and concrete panels which modulate light and views both in and out of the building. Facing Lewis Cubitt Park, a series of bronze coloured splayed bays with "geometric balconies" undulate across the facade, "blurring the boundary between inside and out."

The building is flanked by retail and restaurant units "designed to spill out into landscaped walkways bordering both adjacent parks. Residents enter the building through a dual aspect central reception,

which has been designed as a "continuation of the intricate exterior." Latticed screen subtly partition the space, and with a resident's lounge conceived by Conran and Partners, the grand entrance "merges classic hotel design with the atmosphere of a welcoming members club." The result is a "warm and multi-layered space, with a clear visual connection and axis between the two parks."

High ceilings, dark-stained timber joinery, bespoke lighting and soft furnishings complement the "layered interior architecture" of Squire & Partners, with a central Venato marble concierge desk, and light-grey terrazzo flooring with a brass inlay pattern.

RESIDENTIAL

DLA secures £40m scheme in the centre of Sevenoaks

DLA Architecture has secured full planning consent on behalf of client Freshwater, to deliver a £40m residential-led development on Sevenoaks High Street in Kent.

Chandlers Place is the proposed redevelopment of a former Tesco store to deliver new homes in the town. The regeneration project will also provide new complementary retail to the high street as well as high quality public realm connecting the town centre to the Cultural Quarter.

The development aims to transform the current one acre derelict site into an integrated public realm environment providing 104 new apartments and three retail units with an underground car park, 122 cycle bays and a broad pedestrian walkway.

Council officers approved the plans, commenting that the proposal was "a well-designed building which was sustainable and would bring much needed affordable housing into the town centre."

Charles Jabre, project leader for DLA Architecture said: "We are pleased to secure planning consent on behalf of Freshwater. Our design approach has been contextual, drawing upon the historical architecture of Sevenoaks to create a contemporary, narrative-led design response with high quality homes."

"Chandler's Place is designed to open up the site for the local neighbourhood through the inclusion of a high-quality new public realm along the High Street and a dedicated public pedestrian route linking to the Kaleidoscope Arts centre as part of the town's cultural quarter."

The professional team also included Elliot Wood as structural engineer, ESD as MEP consultants, Connect Consultants as transport planners and Freeths as planning consultants.





POST-COVID MASTERPLANNING

Reimagining villages

The impact of the pandemic has led to a 126 per cent increase in people considering properties in village locations, according to a new report by architects Broadway Malyan, which also seeks to address the "environmental, economic and social issues facing rural communities of the future in the UK."

'Reimagined Village' highlights the "urgent need for a rethink amongst planners, developers and local authorities to stop villages of the future becoming unsustainable and dormitory settlements that are simply not fit for purpose."

Taking inspiration from urban locations such as Vauban in Freiburg, Germany, Broadway Malyan said it saw the 'village of the future' as "an effective antidote to the housing crisis, creating environmentally, socially, economically and culturally sustainable places for people to live, work and play in England and beyond."

"Although set in beautiful environments,

many idyllic English country villages are not as environmentally friendly or economically accessible as their city counterparts," said the firm. "Reimagined Village tackles these issues and more head on to ensure the future village is a valid economic force in its own right – connected, smart, and green, housing a diverse and healthy community of residents and businesses in a unique, attractive and genuinely sustainable setting."

The report centres on seven key elements:

- Scale and size:
- The village economy;
- The village heart;
- New village housing;
- The mobile village;
- The green village; and
- The resilient village.

For more information and to download a copy of Reimagined Village, visit www.broadwaymalyan.com





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SOFTWARE

HLM launches quality measurement tool

After more than three years in software development and testing, HLM Architects have launched a "digital tool" that "assesses how emerging building design concepts are likely to perform by measuring the quality of the environment for the people that use them."

The 'HLM_Healthcheck' software provides designers with desktop access to "projected environmental sustainability knowledge" over a building's lifetime, said the practice. It enables "very early design concepts to be tested for their impact on people's health and wellbeing without complex three-dimensional modelling."

The software "uses best practice from a range of established environmental design guidelines," said the firm, including CIBSE, BREEAM, and WELL. In this way it can "instantly identify if design adaptations are needed to ensure that the places and spaces we create will have good access to views and daylight, not overheat or have poor air quality, mitigate noise pollution and provide a connection with nature and to other people."

Marking a "significant step" in HLM Architects campaign to achieve RIBA 2030 Sustainable Outcomes on all projects by 2025, HLM_Healthcheck is



one of three digital tools that make up the practice's 'Thoughtful Design Toolkit,' which has been shortlisted for Innovation of the Year at the BCIA Awards. The Toolkit provides "data-driven analysis that puts people at the heart of design

decision-making," said HLM.
For more information about
HLM_Healthcheck and the practice's
'Thoughtful Design Toolkit,' visit the
website URL
www.hlmarchitects.com/digital-innovation

NEW APPOINTMENT

Price is right for BDG architecture + design's Shanghai studio

BDG architecture + design (BDG), has welcomed Rob Price to lead its APAC presence from the newly opened Shanghai Studio. Originally from the US, Robert has held design leadership roles in China, with Hassell, JLL and Gensler, for more than a decade.

Drawing on his knowledge of urban planning, public policy, history and cultural anthropology and is an art and architecture contributor for Chicago Public Radio, Rob's recent projects include: the workplace campus for a global sports brand, Shanghai Park Avenue Central, and the Shanghai Tower.

2021 continues a period of exponential global growth and reach for BDG with over 25 projects underway worldwide, supported by strategic opening of studios in Sao Paulo and Shanghai to support ongoing projects in the LATAM and APAC region respectively, such as Sydney, Brisbane, Sao Paulo and Mexico.







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VIEW POINT



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Despite the technical challenges, designers have an obligation to explore the potential to conserve and reuse heritage structures, says Richard Hill of Arup

hile there is an inherent desire in our industry to build new and start afresh, it is pleasing to see a growing appreciation for heritage buildings and a desire to conserve them. Aside from the environmental benefits of extending the life of our existing structures, there are also many other invaluable social benefits.

Heritage buildings contribute to the sense of community that a place offers, with a significance that goes beyond the aesthetic – a building, or rather, a collection of buildings provide an insight into the past.

Therefore, regardless of whether a building is listed or not, engineers have a duty to see if an existing structure can be adapted with as much of the original fabric and character retained as possible.

Sensitively repurposing heritage buildings plays a vital role in regeneration by providing a continued sense of place, resulting in stronger communities.

However, modern conservation is not about simply wrapping buildings up in cotton wool. Renovation and reuse go hand-in-hand. Adapting and repurposing buildings is an essential part of maintaining heritage. Even before we inherit them, many heritage constructions have seen many different prior uses throughout their lifespan, and often had significant alterations in the early stages of their use. Adaption and repurposing is therefore simply the next chapter in the building's life. So how do we reuse successfully?

Respect in regeneration

Understanding the significance of a building's heritage is vital to striking the right balance between conservation and adaptation. Conservation-accredited architects and engineers can offer essential insights as part of this process and both should be involved at the earliest possible stage. There is a delicate balance between ensuring new alterations are in keeping



with the building's scale and form, but that they can also be discerned from the original building so there is an honesty in the interventions.

This is more than simply replacing damaged materials and cleaning up facades – the latter of which can actually remove the patina that provides so much historic character. Engineers can be daring and go beyond relying on steel and glass.

As an example on Arup's recent project renovating Coal Drops Yard in King's Cross, one of our most striking alterations is the sculptural pitched slate roof that unites the two buildings. While using slates from the original quarry, it is clearly a contemporary addition to the original buildings.

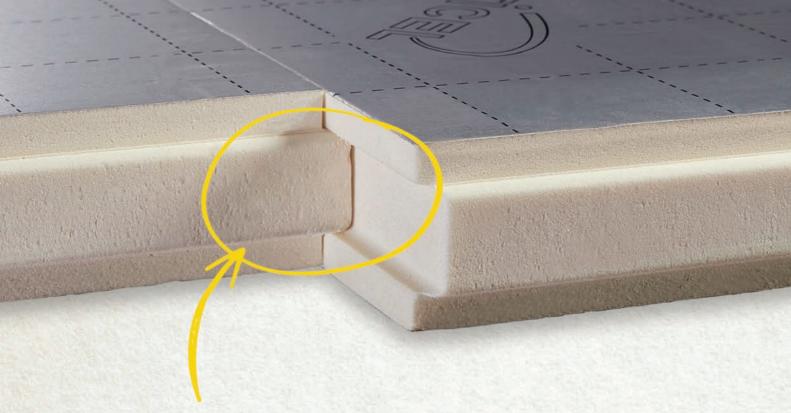
This is not to say significant structural developments are not a massive undertaking requiring difficult decisions – not everything can be salvaged when it comes to adapting for modern audiences.

On the project in King's Cross, a significant length of the East Coal Drop, for example, was ravaged by a fire in the 1980s, destroying the roof. This left the timber floors and iron beams to rot and corrode, and large structural cracks needed to be repaired in order to stabilise the perimeter walls. In addition, the introduction of lift and stair cores meant that a few of the original cast iron columns had to be removed. Fortunately, we were able to use these to replace cracked cast iron columns in other parts of the building, ensuring as much of the original fabric as possible could be preserved.

Balancing the scales

Viewing heritage work as something to be celebrated and enjoyed empowers engineers to ensure historic buildings are salvaged while allowing for modern functionality.

This was how Arup approached uniting



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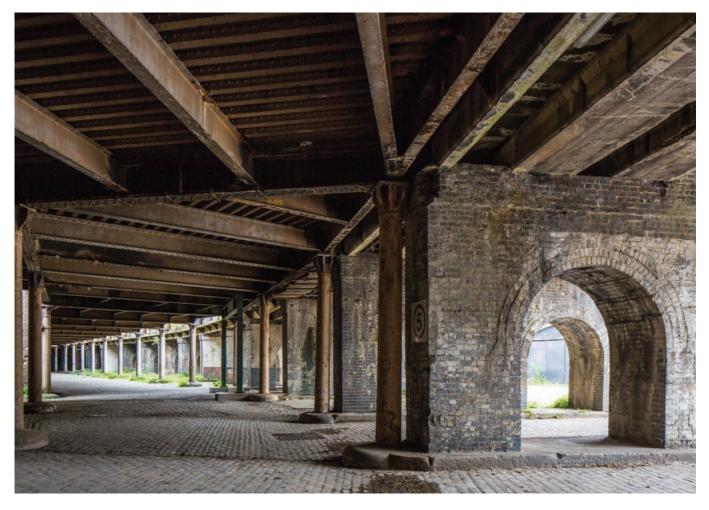


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Sensitively repurposing buildings plays a vital role in regeneration by providing a continued sense of place, resulting in stronger communities

the West and East Coal Drop buildings to create a successful future as a retail and foodie destination. One of the major challenges was the two buildings and their respective viaducts having four different floor levels. To unify the floor levels and provide step free access from the East Coal Drop to the West Coal Drop, the timber floor (including large timber beams) in the East Coal Drop was dismantled and lowered, while lightweight build up material was added to the viaducts to retain the original fabric. The large timber floor beams here needed to be stitched together with long screws enhancing their ability to carry load while being a very discrete and almost invisible intervention.

Also, the East Viaduct – a brick arched structure – was cut back at the north end to

provide greater flexibility of space and pedestrian flow at yard level. This required careful temporary design work, with the new staircase designed to resist the outward forces of the retained arch.

Looking ahead

How contemporary audiences will use heritage buildings is not the only concern for us. Renovating must also consider long-term future audiences. Throughout the Coal Drops Yard project, we were mindful to create different pockets of space to encourage seeing them from a new perspective with each visit and to ensure different focuses and uses could be met in years to come.

For example, the new roof and floating floor (which span the 33 m wide central courtyard), and glazed facade provide a

unique and strikingly contemporary form that immediately captures people's attention and draws them to the space. The mix of spaces and materials provide a unique character. This includes intimate spaces at the yard level from the cellular nature of the original building where coal was once distributed, to the larger more open spaces at the upper levels where the wagons travelled the length of the buildings.

The deliberate choice of materials was also a key decision as the raw mix of brickwork, timber and iron structural elements remain visible and are celebrated in the design. This avoids ageing the renovations, while maintaining that connection to the past and respecting the history of the buildings.

In the UK we are spoilt with a plethora of historic and heritage buildings to enjoy. But to give them a future use and protect them from disrepair and even destruction, renovating is of far more power and practicality than revering them.

Richard Hill is an associate director at Arup



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PRACTICE PROFILE



Stride Treglown

Pierre Wassenaar from the top 10 UK practice speaks to Tom Boddy about how the firm's social value ethos has sustained since its inception, and has led to it achieving a demanding business standard for inclusivity and sustainability

since its foundation in 1953 in Bristol, Stride Treglown has grown "exponentially"; it's now the 10th largest practice in the UK – comprising nine offices and around 330 staff members. Their expertise spans widely across several sectors, categorised into what the firm calls 'super sectors': civic, commercial, education, healthcare, infrastructure, residential, and technology and innovation.

Pierre Wassenaar, a director at the practice, describes its structure as "a classic matrix." All nine offices work collaboratively, bringing work through the different regions and sectors, and resourcing projects as needed depending on where expertise is sitting. While this can become "quite complex," says Wassenaar, it allows for better communication, creating an integrated, more dynamic organisation. Stride Treglown is also 'employee-owned', with 56 per cent of employees owning shares in the company, a number which is "increasing all the time," says Wassenaar. He adds that this has positively impacted not only job satisfaction, but also job security.



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Local impact

Founders Ray Stride and Gerry Treglown established the firm with an ethos of not just being designers, but "deliverers" as well, with a focus on being embedded in the areas they operated in. "It was all about understanding your locality, having strong community links, and this is still really strong in our culture," says Wassenaar.

This philosophy has continued throughout the practice's evolution from a single office, and today, he says each studio is "meshed in" with its area's politics and local initiatives, thereby taking a leading role in the community. Evidence of this is found in a book published by the practice, '52 Big Ideas for Bristol.' One idea contained therein – a taxi service on the River Avon – was actually picked up on by a local resident and turned into a business. "This is an example of where we've had real influence where we work; this stuff really interests us. It's not just a case of 'here's a project, we'll design it for you'."

Social value

Social value is therefore at the centre of all Stride Treglown's operations. A Social Task Force ensures the firm's three guiding policies of 'Better Places, Empowering People, and Resilient Partnerships' are incorporated across its offices. The 'Better Places' element centres on the creation of "more resilient and low carbon places," says Pierre. 'Empowering People' includes "a lot of outreach, going into schools and universities, taking on placement students, trying to be a good neighbour to the colleges and universities around us." Finally, 'Resilient Partnerships' is around supply chain management, partnering with organisations such as Constructing Excellence and the RIBA, and asking questions such as "are we paying in the right time frames and are we managing ethical procurement in our supply chains?," adds the architect.

As Stride Treglown is involved with a lot of projects that have a wide range of stakeholders such as higher education and social housing schemes, the community outreach aspect of the briefing process is "very important" to them, says Wassenaar. One of their initiatives, 'Inhabitant,' is a demonstration of their commitment to their social value ethos, as well as to showing the extent to which it's present in their own projects. At least a year after the completion of a project, the practice goes back and interviews the people who use it every day, documenting their experiences in written and visual ways.

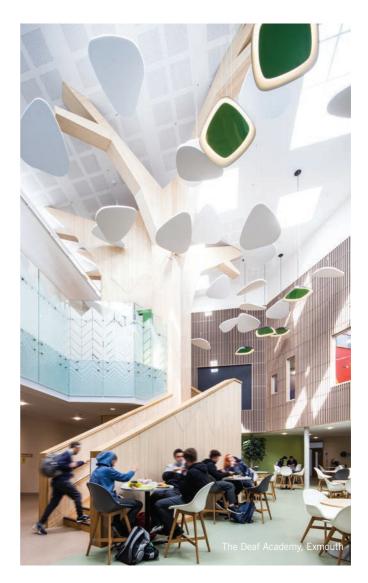
"We try to understand their experience, and we learn from them," says Wassenaar. These insights are shared internally for use on future projects. "We want to have a legacy of projects that are actually bringing something good to the community. That's why we keep going back and talking to the people who use them."

Although Wassenaar believes the scope for social value within the industry is "large and growing," he tells *ADF* that "now everybody is under pressure to actually demonstrate it, and answer the question "what real benefits is this project bringing to the people?"

Plan B for A-rated standards

At the start of this year, Stride Treglown became a Certified B Corporation – reaching high standards of social responsibility from inclusivity to ethical sourcing. Companies certified by the body behind the initiative, B Corp, have shown the "highest standards of verified performance" across five categories: governance, customers, staff, environment, and community.

They are thought to be the first practice in the AJ100 – and one of only a handful of firms in the UK construction sector – to be



part of this growing community of B Corp businesses.

Their journey to reach certification began when Wassenaar heard a programme on Radio 4, where the owner of Pukka Herbs described why their firm had decided to become a B Corp. "He spoke about being a leader in the community, caring about your environmental footprint, and treating your staff well, and I thought 'this really sounds like us'," says Wassenaar.

He says the accreditation process was rigorous, "like doing a PhD," including a 240-question assessment. It took the firm six months to achieve verification, in continual dialogue with the organisation's officiators.

The process was harder than the firm had anticipated, but worthwhile, he says. "A lot of companies talk about corporate social responsibility or caring about the environment, but don't always have the evidence to back it up, and B Corp did that for us." Wassenaar adds: "It's so wide-ranging and so in-depth; it really exposes how you operate as a company."

He says all companies should undergo the accreditation process, even if they don't go for full verification. "It will raise standards across the board, helping firms measure their performance and understand where they need to improve."



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Showcases

One of the key current projects that shows the strengths of the practice, is the recently completed Institute for Advanced Automotive Propulsion System (IAAPS – CGI shown above). The £60m project, funded by the University of Bath, will look into new propulsion systems for cars in a new generation of vehicles. Collaboration played a major role – "we did a joint venture with another architect who had strong experience with car manufacturing facilities; this is something we thoroughly enjoy," says Wassenaar.

Stride Treglown also recently completed The Deaf Academy in Exmouth, which required the designers to think in "a very different way about how a building actually works." Although Wassenaar admits it was "a design challenge," it's the type of project the practice takes pride in. "You've got a legacy of leaving something worthwhile, and in many cases transformational, behind. It's not just about the pounds and pence."

Current challenges

In terms of the knock-on effects of Covid for the practice, it's the volatility in the sectors they work in, rather than the technical difficulties of home working, that has been challenging. "The healthcare sector is strong, while higher education happens to be quite weak, and this is an inversion of what it was previously," says Wassenaar. As a result, the 'new normal' is continually redeploying staff on different projects as things change, which is "really hard to manage," he says.

Concerned to ensure staff welfare, the firm did a survey to discover how staff were being affected by lockdown. The results showed "a really mixed bag," says Wassenaar. There were issues around childcare, and lack of space to work, but not being among colleagues was "really tough, because you often just want to pick up what's going on. It's much harder if you're all in separate spaces."

Looking ahead, the practice hopes to see more organisations in the built environment following its lead and embracing B Corp certification. "It makes you ask yourself those really quite tough questions. If we're to make positive steps towards a cleaner and more collaborative future for the industry, then we need to tackle these big issues together."





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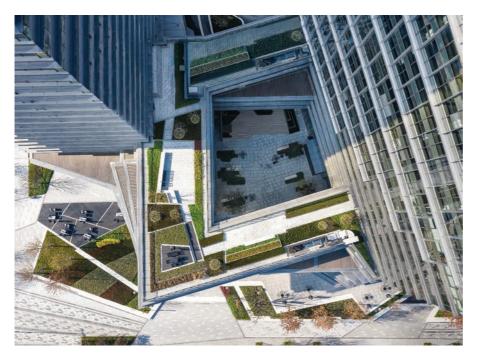
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AOTI VANKE CENTRE, CHINA LWK + PARTNERS

Aoti Vanke Centre, a 'working hub' in Hangzhou, China designed by LWK + Partners, "embraces a hybrid mode as the way forward and challenges conventional workspaces by externalising human activities to a fluid and highly permeable field of semi-outdoor space," commented the architects.

The new office complex "reinterprets the podium-tower typology" with each level of its elevated podium rotated by different amounts, creating a variety of walking spaces. The architects said: "At a time when Covid-19 has accelerated shifting trends in sustainable design and spatial relations, the programmatic stack blurs the work-life distinction and lends itself towards a smarter urban lifestyle for the next generation, promoting interactions, active engagement and sustainability."

The Centre is made up of two office towers and a podium, "perceived as the gateway of the emerging Asian Games Village of Hangzhou." The taller T1 tower houses corporate tenants, while the shorter T2 tower features co-working space for start-ups and micro-entrepreneurs. The towers are rotated to maximise natural sunlight and views to the new commercial core by the Qiantang River. Elevating the ring-shaped podium creates a central courtyard, while the semi-public podium roof garden serves as a bridge between the two towers, "promoting symbiosis and creating networking occasions for building users." It also allows them to pass through a double-height covered outdoor space, as well as providing a north-south shortcut across the site.

The project has LEED Gold certification from the US Green Building Council. Multi-layered greenery is implemented in the project, providing $95,521~\text{m}^2$ of "oxygenating breakout spaces." Decorative fins are installed on the tower facades to provide passive shading from direct insolation and minimise glare. Soft landscapes at the rooftop gardens provide shading to reduce solar heat gain of the building mass as a whole, and the tower roofs are capped with trellises to provide sun screening.



SHENZHEN TERRACES, CHINA MVRDV

Construction has started on Shenzhen Terraces, a mixed-use project that forms the core of the thriving university neighbourhood in Shenzhen's Longgang District. The project comprises a "stack of accessible plates" containing the building's programme, and "all communication takes place on the shaded terraces to maximise public life," said the architects. The project's green outdoor spaces mix together with a wide variety of activities – including a theatre, a library, a museum, a conference centre, and retail – to make the site a hub for meeting, learning, leisure, culture, and relaxation.

The stacked horizontal terraces provide a "valuable contrast" to the high-rise towers all around, said the architects, but they also perform an ecological function: overhangs provide shade and the round shape promotes wind flow and natural ventilation. The edges of the terraces dip at strategic points to form connections between the various floors and to double as small outdoor auditoriums. In other places, the facades are pushed inwards to "emphasise entrances and create recognisable places within the scheme to help visitors orient themselves." At the centre of the largest building, the terraces curve inward to form an open-air atrium. Bridges connect the buildings to "turn the second floor into a continuous route" and connect the buildings with surrounding developments.



THE FORESTIAS, THAILAND FOSTER + PARTNERS

Foster + Partners have revealed the designs for The Forestias, a new residential-led masterplan with a large forest at its heart, located on the outskirts of Bangkok. The "pioneering" development "addresses the growing disconnect between contemporary city life and family traditions, underpinned by the idea of health and wellbeing," said the practice. The site is divided into two zones with the northern areas containing more city level public functions, while the larger southern portion is primarily residential. At the heart of the site is a forest that "defines the essence of the development – showcasing the positive relationship between our built and natural environments and a focus on healthy living." The southern portion of the site contains a range of different housing types from high-rise to villas, catering to a varied market. It includes three 'Whizdom' high-rise condominium buildings that are designed to perfectly suit smaller family units. There are also 'Mulberry Grove' low-rise condominiums that bring residents close to nature, as well as 'Mulberry Grove Villas' cluster-home residences for extended, multigenerational families who wish to live close together in multiple homes that are easily connected. Another residential offering is 'The Aspen Tree' residences. These are designed to suit the special needs of older residents, with lifetime care services. Lastly there are "super luxury" villas – the 'Six Senses' residences.



SONOMA ACADEMY, CALIFORNIA WRNS STUDIO

Sonoma Academy Janet Durgin Guild & Commons in Santa Rosa, California by WRNS Studio has been recognised as the first project to achieve both Petal and zero carbon certification by the International Living Future Institute (ILFI). The Living Building Challenge is claimed as the world's "most ambitious, advanced, and holistic performance standard for green, resilient, and healthy buildings," and consists of seven performance categories, or 'Petals': Place, Water, Energy, Health & Happiness, Materials, Equity and Beauty. Petal Certification is awarded to a project that achieves at least three out of the seven 'petals.' Sonoma Academy achieved four – Energy, Materials, Equity, and Beauty. The zero carbon certification is said to be the first "worldwide zero carbon third-party certified standard that recognises the growing interest and focus on a broad-based tool for highlighting highly energy efficient buildings that are designed and operated to fully account for their carbon emissions impacts." During a one-year performance period, buildings must achieve a targeted energy efficiency level, and 100 per cent of the project's energy use must be offset by on or offsite renewable energy on a net annual basis. The project must also provide offsetting renewables which have the "equivalent of 15 years of project power, provide additionality, have durable ownership integrity associated with the project, and account for the total embodied carbon impact from any new construction and materials through a one-time carbon offset from an approved source."

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CPD FOCUS

The latest CPD courses, seminars and documents for architects

SCHLÜTER-SYSTEMS ARE HOSTING A SUITE OF RIBA-ACCREDITED CPDS ONLINE AIMED AT ARCHITECTS AND SPECIFIERS



Schlüter-Systems, the market leader in high performance integrated systems and solutions for tile and stone, are hosting a suite of RIBA-accredited CPDs online aimed at architects and specifiers. Each seminar provides a detailed look into a specific area, and the aim is that you come away armed with the tools you need to install products with ease.

Considerations for Tile and Stone Installations – Offering an overview of what should be kept in mind when dealing with tile and stone installations, this seminar provides a solid introduction to working with these materials.

Specifying Integrated Underfloor Heating Systems – Focusing on the different options available for the specification of underfloor heating, this seminar details the ins and outs of hydronic and electric systems and what type of projects each are best suited to.

10 Point Plan for a Perfect Wetroom – Exploring wet room installations at the design and specification stage, this seminar will go through a variety of topics. This includes integrated vs. multi-manufacturer combined systems, waterproofing, technology and the difference between waterproof systems and water-resistant systems.

Specifying Solutions for Crack-Free Tile and Stone Coverings – Learn how to guarantee a crack-free finish for tile and stone, with recommendations and essential considerations in specifying problem-free coverings that last. Find out what you need to know about uncoupling, movement joints and best practise.

Specifying External Applications with Tile and Stone – Enhance your understanding of how to protect bonded installations of tile and stone installed on balconies, terraces, and patios. This seminar explores how to counteract the stresses of the environment and achieve functional assemblies.

The CPDs are presented by Schlüter's Area Specification Consultants and are currently being held online – visit the website to find out more.

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TWO NEW RIBA ASSESSED CPD SEMINARS FROM COMAR



In two RIBA assessed seminars, Comar outlines: 'Stand & Deliver: a Study of Curtain Walling' - the design of curtain walling, it's properties and how it is used by specifiers. This seminar aims to offer an understanding of the points of Hll in the NBS specification system, and how best to make use of it. 'Designing Functions & Reliability into Entrances' – the issues that influence the function of main entrance design and technology. This seminar aims to offer an understanding of how user expectation influences door design and links this with hardware selection, entrance configuration and floor finishes. 020 685 9685

www.comar-alu.co.uk

WHY SPECIFYING THE RIGHT FLOOR IS CRITICAL



Architects and specifiers play a vital part when specifying the correct floor that is fit for purpose. Inspired by Harlequin's commitment to protecting the health and wellbeing of dancers and performers, our CPD explains why specifying the correct floor for dance and the performing arts is critical to the longevity of a performers career. Using comprehensive data and case studies, we outline the key considerations when specifying a performance floor, and look at the important contribution the floor makes to the performer health and safetv. 01892 514 888

uk.harlequinfloors.com/en



THE IMPORTANCE OF DESIGNING

URBAN TREE PITS CORRECTLY

GreenBlue Urban are enthused to launch a new CPD workshop, assessing the importance of designing urban tree pits correctly, creating a multi-functional SuDS feature and intertwining existing utilities. This 'free of charge' presentation via Microsoft Teams/Zoom provides specifiers a detailed overview covering the principles and products, allowing the specifier to make an educated informed decision. Case studies and design tools are discussed such as our online Soil Volume Calculator and ArborSystem Configurator. All attendees will receive a certification towards their annual CPD credits. 01580 850 300 hello@greenblue.com

GLAZING SYSTEMS SEMINAR FROM TWINFIX



The new seminar from Twinfix will be of particular use for those who specify glazed canopies and walkways, as well as general overhead glazing, including roof lights, across a number of sectors, education, industrial retail and rail. The seminar will enable specifiers to make more informed decisions about the products used in overhead glazing situations. The presentation in particular focuses on the benefits of nonfragile roof glazing and includes details on the recommended test for polycarbonate roofing assemblies, ACR[M]001:2014. 01925 811311 enquiries@twinfix.co.uk

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Aico selected as a Net Zero Carbon Business Champion

ico, the European leader in home life safety, has been selected as a Net Zero Carbon Business Champion by the Construction Leadership Council (CLC). As one of the first 14 companies across the UK's construction supply chain to join the initiative, Aico has committed to supporting the sector's industry change programme, CO2nstruct Zero to address the climate emergency.

The CLC's Business Champions initiative provides Aico with the opportunity to demonstrate their commitment to reducing carbon emissions throughout their business operations. The aim is to meet net zero targets in line with the nine priorities set out by the CLC regarding transport, buildings and construction activity.

The Construction Leadership Council has selected 14 companies to pioneer the initiative from all areas of the industry, including major contractors, consultants, architects, engineers, material suppliers and specialist



subcontractors. Together, the Business Champions will set an example for the industry in a bid to reach the net zero carbon target by 2050. Working in conjunction with the CLC and other industry bodies, the Business Champions will share best practice and be the driving force in changing how the sector delivers the built environment.

As part of the initiative, Aico will be required to provide evidence of how their plans will align with the nine CO2nstruct

Zero priorities, contribute to the CO2nstruct Zero reporting process and support other companies in the industry to develop net zero plans.

Neal Hooper, managing director of Aico, comments: "We recognise the importance of meeting net zero carbon in the construction sector, and we constantly strive to play our part in reaching this ambitious target. At Aico, we use green practices and work closely with social housing and local authorities to help them achieve net zero."

The CLC will be recruiting for new Business Champions every month, and Aico urge companies in the construction industry to apply and make their pledge to CO2nstruct Zero.

To find out more about the Business Champions initiative, visit bit.ly/2RznbFQ

To find out more about CO2nstruct Zero, visit bit.ly/2R16wv0

01691 664 100 www.aico.co.uk

Norbord Europe is now part of West Fraser



Norbord Europe Ltd is proud to join the West Fraser organisation. Serving the housebuilding and construction industry with a vast array of board products for flooring, panelling and roofing, Norbord is the go-to corporate name behind the company's popular brands for architects, merchants,

specifiers, end-users and consumers alike. These successful, well-known brand names will remain – SterlingOSB Zero, CaberFloor and CaberWood MDF as part of the West Fraser organization. In addition, it is business as usual at the three UK plants – in Cowie and Inverness, Scotland; and South Molton, Devon – with no change in personnel.

uk.westfraser.com

Counting down to catch up at CFJLIVE



The flooring industry is preparing for CFJLIVE—its first official event in over a year — which takes place on Thursday 1 July. The free-to-attend global exhibition is the UK industry's first ever virtual event, bringing together over 100 global exhibitors. It will be broadcast live from a main

stage – at FITA's training centre in Loughborough – and from exhibitors' showrooms, offices and factories around the world. "The format is flexible, to suit schedules and time zones, and the content is shaping up to be incredibly exciting!" commented John Heath, Kick-Start Publishing's CEO. Fast registration can be accessed now.

stuart.bourne@kick-startpublishing.co.uk www.cfjliveexpo.co.uk

Gilberts rises to the (lofty) challenge of helping achieve BREEAM 'Outstanding' rating



The ventilation strategy designed by Gilberts (Blackpool) has already proved its capability to deliver on massively-varying requirements for the 'ground-breaking' 143m high Manhattan Loft Gardens in the heart of London. Within days of the 42-storey mixed use tower opening, temperatures outside reached 30°C in the shade, yet inside guests felt cool and fresh, whether in the restaurant, guest rooms, bar or the lofty mezzanine space. Gilberts was commissioned by Foreman Roberts building services consultant on behalf of ISG to develop a strategy for delivery of an energy-efficient air movement programme. Thus Gilberts provided the grilles and diffusers for the whole six-storey five star hotel – The Stratford – at the base of the tower, and the restaurant on the seventh floor. The building has achieved a BREEAM 'outstanding' rating. Peter Vance of Foreman Roberts added: "We were delighted with Gilberts' performance throughout. They spend countless hours selecting the appropriate grilles, that delivered the high performance and aesthetics needed, and developed bespoke solutions where necessary. Even when external temperatures exceeded the norm, the grilles did their job."

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BUILDING

WERK12 MUNICH, GERMANY

Statement architecture

An award-winning mixed-use project in Munich features 5 metre high LED lettering and an industrially-inspired design that reflects the site's heritage. Jonathan Schuster, project leader at MVRDV, speaks to Jack Wooler

ERK12 is a mixed-use office, culture and entertainment complex in Germany's third-largest city, designed by MVRDV with playful incorporation of references to comic strips and graffiti – in statement 5-metre tall letters across its facade.

The project, say the architects, "forms the nucleus" of the Werksviertel-Mitte district – an urban regeneration plan on a former industrial site. Close to Munich's East Station, the 7,700 m² building located in the Kultfabrik nightlife zone brings new restaurants, bars and offices, as well as a three-storey gym with a pool, to the area. This "legendary entertainment district," in the words of MVRDV founding partner Jacob van Rijs, is on the site of a former potato factory, and has been transformed in recent decades.

Conceived in 2014 and completed in 2019, WERK12 celebrates the district's lively nature while introducing "relevant and contemporary design," as well as demonstrating an uncommon mixture of functionality and amusement, according to the architects. The latter is particularly found in the building's expressive 'art facade,' featuring quirky expressions.

MVRDV's client, OTEC GmbH, worked together with the architects – alongside another practice, Steidle Architekten – to develop the masterplan for the project. The

building was in fact inspired by the iconic Dutch Pavilion Expo 2000 in Hanover, with some of this earlier design re-moulded and ported over to WERK12.

Since its opening, this eye-catching project has unsurprisingly received a large amount of attention. It was featured prominently in the German Architecture Yearbook 2021, as well as the being awarded what's been called the "most prestigious architecture award in Germany," the DAM Preis 2021.

Playful expressions

Viewing the exterior, WERK12's design prides itself on simplicity, with a combination of "honest" materials and "transparent" facades. The facade – the most striking feature of the project – is animated by an "urban art piece" developed in tandem with local artists Christian Engelmann and Beate Engl. It comprises bold LED letter forms spelling out well-known expressions taken from the German version of Disney's Donald Duck comics.

At night, the 5-metre tall lettering changes appearance through a programmed illumination allowing "simple geometries to morph into a vibrant light show," say the architects. The colloquial nature of the expressions chosen for the lettering was a tribute to the city's graffiti culture, as well as the extensive use of signage previously seen on the site.





Beyond the vibrant text, the glazed facade also displays some of the many ways users are able to circulate around the building. The design's external circulation core is supplemented by 3.25 metre-wide terraces that surround each floor of the building, connected by external staircases that curl around the structure. The latter references one of MVRDV's most famous early projects, the Dutch Pavilion at the Expo2000 in Hanover.

This public route up the building is intended to blur the distinction between interior and exterior, placing the interior spaces "in conversation" with exterior balconies. These are finished in the same material as the ground-level pavements, emphasising their status as part of the

building's public areas.

Heading inside, the programme across the five floors breaks down into restaurants and bars on the ground floor, the offices of Audi Business Innovations on the top floor, and a gym extending across the floors between. This includes a level housing a swimming pool overlooking the skyline of the historic city centre and mountain panorama on the other side.

WERK12's floor-to-ceiling glass walls, combined with its location near to the train station, provide the upper levels with expansive views towards central Munich, punctuated here and there by the lettering sitting on the building's terraces. Many of the words in fact take on a new meaning when read in reverse!

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Past the vibrant text, the facade also displays the ability for its users to move around the building in multiple ways

Inspiration

According to Jonathan Schuster, project leader at MVRDV, the client's original vision for the scheme was to dismantle the practice's Dutch Expo Pavillion in Hanover – itself now undergoing a conversion into a co-working office building – and reassemble it in Munich.

He tells *ADF* that, although the original pavilion was built to be demounted and reassembled as part of the 2000 World Expo, "various circumstances meant that it was not possible to simply bring it over." So instead of bringing the pavilion structure itself to the site, the client brought the architects, to design a new version of the concept for Munich.

The site

"For me as a German, the Kultfabrik site is nationally well known, as well as Reeperbahn in Hamburg," comments Schuster. He adds, on the subject of his first visit, "Arriving there and seeing the industrial past merging with the creative spirit of today you could already think that this would be the most important genesis of the project."

He tells me on his first visit he was struck by the "traces of night culture, music and graffiti." This lively mix was an important inspiration for the team, alongside the flexible industrial architecture locally.

The architect describes the Werksviertel district as presenting an inspiring contrast to the more "conservative, cosy Munich" on the other side of the station underpass; "a totally different world."

The architect describes the architectural evolution of the area: "With each new building that is completed, a piece of its identity is created, which, at the latest with the concert hall, acquires its own downtown quality."

"We were able to team up with the local architects from N-V-O and a great consultant team around Wolf+ and Teuber+Viel to create a new focal point for the new emerging district around the building."







The most important requirement from the client was that the building be flexible, so that it could be easily adapted to future uses with different layouts

Flexibility focus

In terms of the new features of the project adapted by the designers for the site, the most important requirement from the client was that the building be flexible, so that it could be adapted to future uses with different layouts easily.

This flexibility was built into spaces across the levels. The building's extra-high ceilings – with 5.5 metres between each floor – allows for mezzanines or other level changes to be added by future users. The placement of the circulation on the outside of the building means that the interiors can be easily reconfigured, while also providing structural stability through the use of the diagonal staircases.

"One of the main ideas was to create an adaptable building to allow different uses," says Schuster. Designing for longevity was a key part of the project strategy – the clients eager to find a long-term, sustainable

contribution to the district.

There were some challenges here, however, with it being clear to the designers that in order to be able to achieve that long-term flexibility, "you had to have a little more air in the building."

According to the architect, the maximum volume was already outlined, so the team suggested taking out a floor and building five levels instead of six, with the possibility of adding a mezzanine.

"You then also have more light inside," adds the project architect. This, together with the external circulation and suspended balconies, allows the client to "make the most of the most flexible floor plates possible."

Early in the design process, the idea emerged to use this external circulation, plus the cascade staircase, to unify the project as a whole. "That is now a connection back to the pavilion," says the architect. "The staircase then fits perfectly to the new surroundings and helps to create a kind of landmark."

Challenges

Though there was much inspiration from a previously successful project, there were still some practical hurdles for the architects in implementing the designs.

One of the biggest challenges, according to Schuster, was the structural requirements posed by existing buildings on the site, chiefly a parking garage that defined the structural system with a maximum load the building could permit.

The "complexity of the structural analysis" was therefore increased by the two-storey underground structure which would remain under the building. This meant that "all load assumptions and load points that could be introduced were already determined before the first line was even drawn."

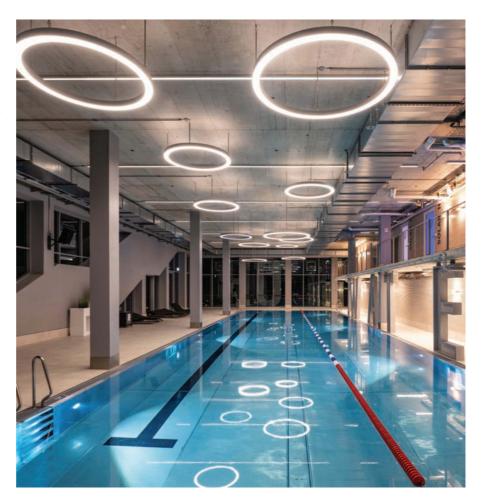
Further complexity was then introduced by the fact that the architects were presented with an evolving set of uses as the project progressed: "Originally, office use was planned, then a fitness studio came in as an anchor tenant and with it a 25 x 8 metre swimming pool. This was on the third floor, where all load reserves were already utilised." This was made possible by the project's structural advisor (Wolf+).

Another tricky challenge presented itself during the design, namely the combination of meeting the client's "desire for maximum transparency" while dealing with high winds at the building's upper levels, alongside issues of solar gain and protection from the sun's rays. "But, in the end it worked out well," says Schuster, citing the fact that the team were given "adequate time to solve these individually."

One way in which some of these issues arising from the building's height were addressed was through the structural concept of slab and column, braced by the cascading external stair. Since these are also used as escape routes, they were able to be made wider – which the architect describes as "a win for the project."

Also, by reducing the building by one floor but increasing the room height (including the potential mezzanine), usable square metres and volume remain the same "but offer new freedom through the interpretation of the regulations."

Lastly, the design of the interior also presented obstacles: "The floor height of 5.5 metres is generous, but once galleries are added, the clear room height shrinks,"







This design for longevity was also a key part of the building's strategy — with the clients looking for a long-term, sustainable contribution to the Werksviertel-Mittedistrict

causing issues to the provision of an open and continuous interior space. The architects pay tribute to fire advisor Sascha Kaefer for his "great concept" which made the balconies possible, offering necessary visual connection from mezzanine floor to main floors.

Because of the presence of a fitness studio, ventilation and sprinkler issues also came into play. "This required a good spatial order principle of building services," says Schuster. "The main structure is fixed, but if different uses and elements have different lifespans; the engineering can be changed quickly."

Achievement

WERK12 has reportedly been well-received since its completion, exemplified by the project being awarded the German Architecture Museum (DAM) Prize 2021 for an "excellent and visionary achievement."

Commenting on the award, Schuster's colleague, and founding partner of MVRDV,

Jacob van Rijs, commented that it was an "honour to receive the prize, especially for a building like WERK12 which presents itself in such a light-hearted way."

He continues: "The architecture world can be quite serious, even dull sometimes, so it's reassuring that the jury was able to appreciate the value of this fun addition to Werksviertel-Mitte. I'm proud they were able to see beyond the project's facade to understand that it also deals with some very relevant topics in architecture, with a very deliberate approach to making a long-term contribution to the city."

The team believes that with this project they have celebrated the location, while creating a foundation for its next chapter, WERK12 being "stylish and cool on one hand," but also not taking itself too seriously.

Schuster echoes this, concluding: "The building is not typical in Munich, and people really appreciate the joyfulness."



BUILDING

TWO ICF HOUSES NEW MALDEN, SURREY

Two against the odds

An architect and his former rugby team mate decided to collaborate on two semi-detached, energy-efficient homes in Surrey. But as Tom Boddy reports, they couldn't have anticipated the challenges that awaited them

hen architect Rik Hall (of Arc8 Projects Architects) decided to join forces with his friend, project manager Matt Johnson on a small residential development in Surrey, the pair could be forgiven for not anticipating what lay ahead. All such projects are demanding, but the array of challenges they had to navigate tested their resolve and abilities.

Their goal was a relatively straightforward pair of semi-detached

houses, although designed to near-Passivhaus standards for low bills and high efficiency, on a semi-rural, leafy site near New Malden. Ever since they had been on the rugby field together as team-mates, Hall and Johnson had talked about taking on a new build together, later working together on projects in east London.

Johnson found the ideal site, intrigued by its unusual combination of seclusion and convenience, offering a tranquil setting and

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yet close access to the A3. Sitting on the site was a dilapidated Victorian cottage, with "no architectural merit," says Hall, and in purchasing it they knew that demolition would be one of the first tasks.

Revealing legacy

It wasn't long after purchasing the plot that Hall and Johnson discovered a major issue with the land. Not far down the road there had once been a gunpowder factory, built during the 1600s and still in production during the First World War. Resulting pollution had led to significant contamination of the soil over the years. Although they discovered this early on, it was a major setback, but rather than panic, Hall says they sat down to calmly resolve the problem.

The planning department's officer responsible gave them two choices – install a membrane throughout the site, or strip the ground back to the virgin clay. While the latter meant pushing back the schedule and adding costs, they decided it was something they had to do. Hall put himself in the position of potential buyers: "If this was going to be me living there with my family I wouldn't want there to be any

possibility of soil contamination." They removed all the contaminated soil, replacing it with clean subsoil.

Getting planning

The overall goal was two generously-sized, desirable family homes, "not just 12-metre boxes for five people," says Rik. The first plan they submitted was supported by the planning department, however a tree protection order (TPO) was in force on the neighbouring property, so the design had to be checked by a tree preservation officer, causing more delays.

Hall believed he had addressed the TPO in the initial plan, but the officer wasn't content, and was minded to refuse the submitted plan based on the root protection area required. Rik and Matt tried to show that their design would not contravene the restrictions, but the council insisted they redraw the plans.

Despite this, they worked alongside the officer on the redesign, and eventually both parties were satisfied. As a result, one of the homes is smaller than the other, with the rear extension needing to be set back due to the TPO. "We had to take this on the chin," Hall ruefully says.







He advises others in a similar situation to "get in touch with planners as early on as possible" to tackle such problems collaboratively: "It's about having dialogue, working with them as much as possible. You've got to submit something that any rational person can look at and go 'yes I can see that if we can make a few changes here, I'll be happy with it."

Fire

With plans finally approved and demolition about to start, yet another challenge reared its head. Hall received an agitated midnight phone call from the neighbours, informing them their soon-to-be demolished Victorian cottage had caught fire, and the flames had damaged the neighbours' shed.

At this point, Hall was starting to think that the project may be jinxed. Fortunately, the damage needing to be covered was minimal due to the planned demolition. Arson was initially suspected, or "a freak accident," says Hall. The Fire Service speculated that with it being a particularly hot summer nearby compost could have self-ignited, although Rik is sceptical about this theory!

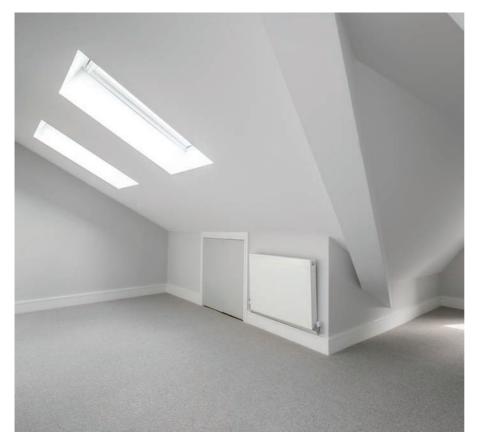
Another positive outcome was that the team managed to salvage all the bricks from the cottage and sell them to a local merchant. "Where we could, we reused and recycled any materials that were on site," explains Hall.

Construction

After overcoming all the challenges, the build finally got underway in April 2018. The external envelope is somewhat unusual for this type of domestic project, being of insulated concrete forming (ICF) – hollow EPS blocks reinforced with steel beams and filled with concrete, offering high thermal performance.

Thermohouse UK supplied and installed the ICF frame, providing a "one-stop shop" solution. The shell was completed very quickly, taking eight weeks. "All we had to do was put in the windows and get the roof up," says Hall. He says it's a particularly useful option for such 'self-builds,' freeing up the programme from traditional construction methods. "You can get the structure up, and then tender out the various pieces of work. It's a lot more manageable."

The overall goal was two generously-sized, desirable family homes, "not just 12-metre boxes for five people"







Considering the design's strong focus on energy efficiency, the properties' look doesn't scream 'typical eco-houses'

Passive approach

The plan in creating a very thermally efficient and airtight build, assisted by the ICF, was "never to aim for Passivhaus standards," says Hall, "but to get as near as possible." Although the goal was to create a pair of sustainable homes, true passive design was not within their budget, and an MVHR ventilation system, which would have been required to meet Passivhaus air-tightness standards, wasn't feasible. Hall comments: "In an ideal world, we would have met all standards, but sadly in this case it was a bridge too far on the cost side."

Instead, the design uses trickle vents within a whole-house ventilation system whereby in moisture- or heat-heavy rooms such as kitchen and bathrooms, a sensor activates so that the air is removed and replaced as needed.

As well as rooflights, solar PVs have been included on the flat roofs to the rear. The panels are currently making enough electricity to export some back to the grid. "Not a huge amount," admits Hall, "but it helps." He believes that the PVs will have paid for themselves in around six or seven years.

The two buildings have achieved an Energy Performance Certificate (EPC) rating of 88 per cent – three points off an A. To help achieve the construction efficiency standards they were aspiring to, Rik and Matt hired a specialist air-tightness consultant. Rik comments: "The crux of the performance relies on the penetrations of the envelope being properly sealed. This is most crucial where drainage and services come into the building."

Design & layout

Considering the design's strong focus on energy efficiency, the properties' look doesn't scream 'typical eco-houses.' In fact, their design incorporates some traditional elements, proportions and well considered detailing, all helping to create an attractive result.

Johnson and Hall wanted their build to fit harmoniously within the streetscape, and took design cues from neighbouring dwellings. The pair of houses have similar ridge heights and Edwardian-proportioned windows of their nearby counterparts. Hall explains the careful approach: "It is a well-considered Edwardian aesthetic, minus the bricks." He adds: "If you're going to do



something completely out of character, you will be up against it from day one, and will have to go the extra mile to ensure the final product is aesthetically pleasing and considered."

To create a functional space for a family, the homes' interiors have been divided into two living zones. The upstairs – which Hall describes as a "more formal" area – includes the generously sized bedrooms, a study, and a spare room that can either be a children's bedroom or a home office – a useful alternative in the current Covid climate. The interior detailing has also incorporated some traditional aspects, as well as being fairly neutral – with simple greys, white painted spindles, mahogany handrails, and carpet runners up the stairs.

The downstairs (essentially the basement due to the gradient), is where a more contemporary feel becomes prominent. It's a large open-plan space with the kitchen at the front, dining in the middle, and a living area at the rear with bi-folding doors leading out into the garden.

With the downstairs being at 'basement' level, the design needed to allow as much

natural light into the homes as possible. This was achieved by including lightwells to the front, east-facing facade. This allows the morning sunlight to pass through into the kitchen, and as it passes over, large rooflights in kitchens plus the bi-folding doors at the west-facing rear bring copious light into the ground floor.

The successful way the houses are embedded into the slope was picked up as a design exemplar by the council. They have asked to use the project to demonstrate a good design approach on a sloping typography.

Despite the project's litany of problems, Johnson and Hall have taken many positives from it. "It has been a huge learning curve," says Hall. "The way we've dealt with the problems and come out on top, makes it for me a big success."

The twist in the tale is that although the homes were built to sell on, Hall may end up moving into one as his house is currently for sale. This would mean he and his family would after all benefit from the close attention paid to the needs of potential occupants shown throughout the project.

The successful way the houses are embedded into the slope was picked up as a design exemplar by the council – they have asked to use the project to demonstrate a good design approach on a sloping typography

Green-tech provides landscaping materials for over 1,000 Trees at Linear Park in Coventry's City Centre

o celebrate Coventry's 2021 UK City of Culture status, a new linear park was proposed to run from Naul's Mill Park, along the route of Radford Brook, to connect with Belgrade Plaza in the city's theatre quarter.

The area included a redundant 6.5-acre gas works site and a vast, grey, dark underpass area traversing underneath the ring road. All in all, it was not considered a pleasant route in or out of the city centre.

Complex Development Projects, in conjunction with Barton Willmore Landscape Architects presented a stunning vision, comprising of a new green corridor featuring around 1,000 trees and saplings, uncovering of the culverted Radford Brook, a re-naturing of the old boating pond into a new wetland habitat, and an amazing 'underpark, featuring hard and soft landscaping, to transform the previously intimidating underpass area.

The landscape contract work was awarded to idverde, one of the UK's leading landscape creation and maintenance providers, who have a long-standing working relationship with Green-tech, the UKs largest supplier of landscaping materials.

Work on planting the 1,000 plus trees began in March 2021, with Green-tech delivering over 1,000 heavy-duty stakes, along with associated buckle ties for safely securing the semi-mature trees.

To ensure the more mature trees remained stable, 250 tree anchors were supplied to anchor trees up to 20 cm girth into the ground, using a mix of both wire and strap systems. To ensure adequate irrigation, the larger trees were supplied with Mona Relief



irrigation tubes, which allow the maintenance teams to water the trees quickly and efficiently via an easily accessible filler pipe. Any wayward root development within the tree pits will be guided by the installation of Gt RootBarrier RollRib. Made from 100 per cent recycled HDPE, RollRib features specially designed vertical ribs, which stop roots turning in on themselves during growth.

With the planting works well under way, completion is anticipated by early summer, to help support Coventry's City of Culture year.

This project will not only provide a more sustainable, pleasant environment for pedestrians and cyclists, but it will also create additional bio-diversity and natural habitats for local wildlife.

idverde's operations director Nicola Easdale comments: "We have worked with Green-tech for many years now, and they can always be relied on to deliver what we need, where and when we need it. In these times of material shortages when resources are hard to come by, it's good to have a commercial partner who can still step up to the mark."

Roger Amies-King, Green-tech's key account manager adds: "It is always a pleasure to work with idverde, and to be even a small part of regeneration of this type, transforming previously grey and derelict areas into something green and wonderful, makes our work worthwhile."

01423 332100 www.green-tech.co.uk



PROJECT DETAILS

Project: Radford Linear Park

Location: Coventry

Client: Complex Development

Projects

Landscape Architect: Barton

Willmore

Landscape Partner: Project Landscape Contractor: idverde Product/Services Supplied: Tree Stakes, Buckle Ties, Anchors, Irrigation And Rootbarrier





BUILDING

THE BEAM SUNDERLAND

Elevated aspirations

A rare speculative office scheme in Sunderland faced a host of challenges, from the demise of Carillion, to a tough local commercial market. As such, Feilden Clegg Bradley (FCBStudios) produced a distinctively attractive, lean building, reports James Parker

ADF JUNE 2021 WWW.ARCHITECTSDATAFILE.CO.UK





he prominent, elevated riverside site of Sunderland's first new speculative office building for 40 years, was formerly the location of the Vaux Brewery, sitting between the city centre and the River Wear. This historic industrial waterway was where the carcasses of ships were built before being floated to the Tyne and fitted out in Newcastle.

There was therefore a lot of industrial heritage in the Wear Gorge, around 200 ft below the site, including coal workings. This prime site has had a "chequered" history of development, says partner at FCBStudios, Simon Doody. "Developers have come, promised the world, then disappeared when they realised that the local rental markets are really tough."

However with the city at the core of the Government's 'levelling up' agenda, investment is happening in earnest. This scheme predates that new focus of Johnson's administration, the architects having prepared a bid with Igloo Developments in 2009. They're a firm whose values "in terms of their social and environmental agenda, align with ours," says Doody, adding that their own green

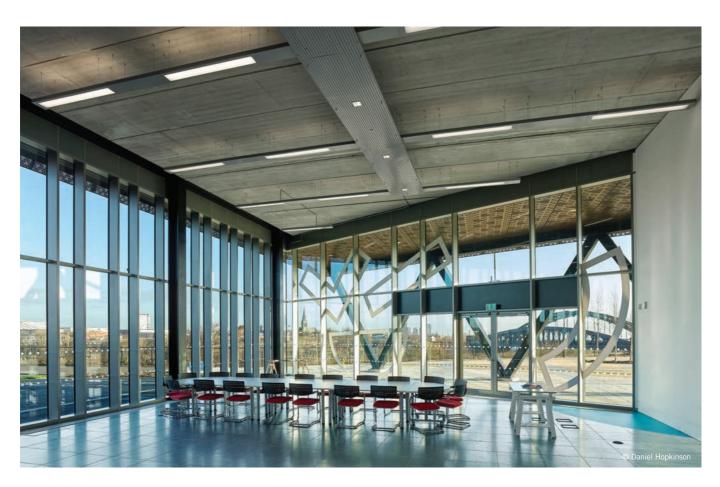
assessment system, "was a far-ranging check on the environmental and social decisions we had to make."

Igloo assembled a team of around six local and national architectural practices and urban designers UrbEd and bid as part of a consortium. Following winning the bid the team went forward as a joint venture called Siglion, (Sunderland City Council, Igloo, and Carillion).

When the contractor went into liquidation in 2018, FCBStudios had to continue work without any design fees for a number of months, however, says Doody, this financial hit "paled into insignificance" compared with the costs the client had to bear to restart the project. They proceeded to appoint another contractor, Tolent, to finish the job, and it ended up being one of the mothballed Carillion schemes that was completed the quickest, and with the least financial pain. There was necessary value engineering however, in order to deal with the costs incurred through the firm's demise.

Doody says: "Sunderland CC managed it remarkably well, through Gleeds," and the contractor had to "pick up the pieces."

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Elements of the building like curtain walling and windows had been constructed offsite, and were sat in various yards waiting to be transported to site, not having been paid for. The project team therefore had a job to do in working out the full supply chain and reacquiring the elements needed.

UrbEd did the masterplan for the Design & Build project, in collaboration with the architects, who undertook plot testing to ensure they were sized properly in relation to the brief. Since practical completion in mid 2019, the project has been subsumed into a wider urban masterplan being prepared by different architects – Sunderland Riverside. This includes housing and further development of the former brewery site, including a major council building by FaulknerBrowns. The Beam now finds itself the flagship project of this major regeneration.

It was designed to be a "nonconventional offer" to commercial clients, combining a healthy and appealing environment with strong sustainability credentials within an attractive building that related to the city. In terms of providing a "healthy" office, the focus would be on linking to external spaces, and natural ventilation plus a shallow plan, and good daylighting.

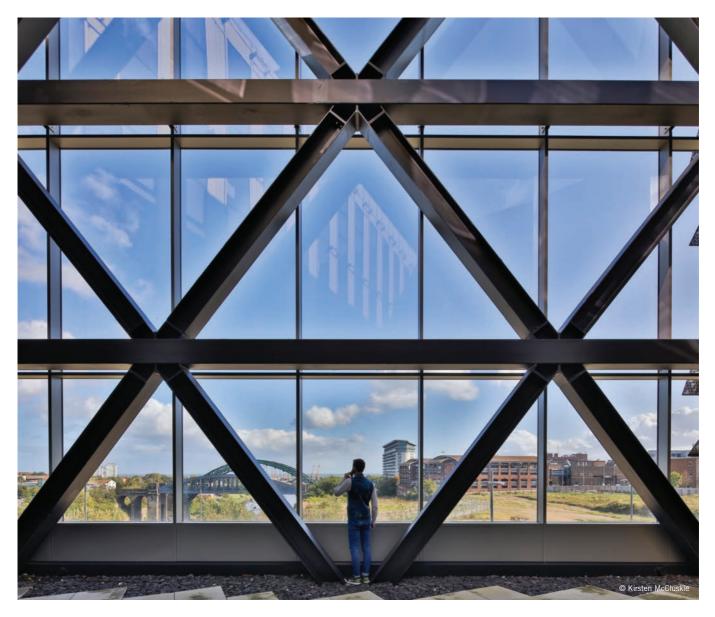
Interestingly, the building that they initially drew for the bid with Igloo was "completely different, on a different site, so we were effectively starting from scratch," once the Siglion team gave them the final brief.

A building for Sunderland

The project team wanted the community to buy into the building, and "feel they owned it," says Doody, responding to the client's brief of a building that "belonged to Sunderland." The previous modern building on the site that The Beam replaced wasn't popular locally, and there was mistrust of new development. As a result, the team "really wanted this building to resonate with the site, and with the city."

The town being rich with industrial heritage meant that this factor remains important for locals, and was something the architects were keen to honour. "We love the big, structural heritage, and the brewery's history; it has quite an emotional





In terms of providing a "healthy" office, the focus was on linking to external spaces, and natural ventilation plus a shallow plan, and good daylighting

attachment in the city," says Doody. A key move in the overall masterplan was to create a green, central north-south axis – the 'Keel Line' – running the length of the longest ship built in Sunderland. It will include the names of all of the vessels built here in paving and be a metaphorical as well as physical link to the city.

Doody explains further that there are "two shifting geometries within the masterplan, a more orthogonal piece [towards the east] which links into the city grid, but to the other [west] side of the Keel Line is an area that peels away. It effectively opens up a view towards the bridges, but also allows the masterplan to turn round and face the park." The Beam sits at the

centre of the plan, at 45 degrees to the keel line, its location in the plan leading to the creation of a four-sided form with an elongated 'prow' facing the river; its south elevation faces into a new public square. The upper level courtyard frames a view, albeit glazed against the elements, looking back to the Wearmouth bridge and the Stadium of Light.

A lean way to meet the brief

With the city's commercial market being challenging, and empty space and low rents a common feature, the clients needed to create a unique offer to attract tenants. So a lot of work was done early on with Creative Workspace Management, who are part of the Igloo Group, around the variety

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and character needed in the office spaces.

With standard floor to floor heights called for by the clients combined with a requirement for generous floor to ceiling heights, the architects omitted ceilings but exposed services, meeting the aim of using the minimum amount of materials. This was driven by cost efficiencies as well as sustainability: "With the low rental market, we couldn't put up a really expensive building," says Doody, "so it was trying to find ways to deliver quality, space and character at low cost."

The brief required a 5,500 m² net internal area, in an "exciting typology with unique spaces for users," and "ultimate flexibility." This meant that tenants ranging from two-person start ups through to large corporates could be catered for, in "simple, easy to adapt space; a warehouse workplace." In the event, Ocado took the top two floors for its regional office, and a smaller company has taken a tenancy for half of the ground floor.

"We did a lot of space standard testing," Doody says, regarding the Beam's designed-in adaptability, "but also made sure it could be easily done, not having to move services for example." Partitions can be easily set up, and there are no high-level services other than lighting and cable trays.

Space, ventilation & light

The design simplicity starts from the 6 m x 12 m steel frame and precast concrete construction, which enables crossventilation across 12 metres.

There's an elevated, planted central courtyard between the two wings of office space, accessed from the first floor, which is sheltered by a glazed screen. This is the building's "green lung," which is the core of the natural ventilation strategy. The tenants are able to benefit from full natural ventilation, however some have adopted different approaches, using comfort cooling as per their own ventilation standards.

There are low and high level windows, so single side ventilation for offices that don't link to the courtyard is possible if partitions are required near a facade, alternatively open-plan offices can have cross-ventilation. In terms of sustainability, the EPC A-rated design was predicated on simple proven approaches like openable windows, radiators, LED lighting, external shading, insulation and air-tightness, plus the thermal mass obtained from concrete planks.

The more land-locked rooms towards the







Interiors have expanses of exposed concrete, with this feature being particularly effective in the reception area

centre of the plan are darker, and better suited for the more intimate meeting functions that occupy them. Around the perimeter are either cellular or open plan (single or cross-ventilated) rooms.

Doody says: "the plan works to really good principles we were using in the 1990s, that have been forgotten about. Making sure the building is really well shaded, windows are in the right place. The industry has developed a fashion for putting floor to ceiling windows in; the bottom part effectively lights the space below your waist level."

We are just trying to do a really simple, pared-back version of what architects like Arup had mastered, an office where services, structure and facades are all coordinated and work in tandem."

The designers created bands of horizontal windows for the office spaces with panoramic views to the city and its iconic steel Victorian landmarks. There is a further high level band of glazing (also with opening vents) to bring daylighting deep into spaces. The building has 40 per cent

glazing, "which is where we want to be in terms of heat loss and heat gains," with horizontal bands of brise soleil cladding over the thermally broken curtain walls. By contrast the windows into the less sunlit landscaped courtyard are floor to ceiling, helping connect the offices to this space.

Light industrial

The exterior is highly functional but at the same time refers directly to the robust steel heritage of the area. A striking heavy, dark painted diagrid of girders forms the front facade, forming a double-height colonnade to the entrance, and bracing "what is otherwise an unbraced steel structure," says Doody. The shear forces of the four, concrete-floored storeys are taken at the back of the building by the core, as well as the girder bracing. While echoing the Wearmouth Bridge visually, the latter also enables the "very lean" structure to work.

The two-storey entrance includes a set back lettable mezzanine area, either side of the entrance, allowing potential food and beverage tenants at a later date. The straightforward layout comprises four floors of offices above, a stair and lift core, and a flat, sedum and PV-covered roof. The triangles of the prow do not create awkward spaces, but instead "become nice corner offices with good views," comments Simon Doody.

"We embraced some of the structural aspects of a steel frame." says Doody, such as where there's a splice with "big bolts" in it; "we kind of ran with it," he adds, alluding to how the architects carefully detailed the frame to celebrate its structure.

The cantilevering powder-coated aluminium brise soleil 'pleats' to the facades are designed with a lace-like perforated trim, to avoid the feeling of a "heavy shutter" for the office workers inside, in a pattern again referring to that of girders. This attractive, somewhat 'Moorish'-looking mosaic of triangles reappears on the metal soffit of the entrance canopy.

Smaller horizontal spandrel sections sit beneath these (apart from at the lowest level), help cover the columns and "allow opening vents that don't sit in front of the columns," says Doody, which allows flexibility of cross-ventilation. The architects developed a 'ship-lap' detail echoing ships hulls, with the cladding panels slightly overlapping, adding historic resonance and texture.

Interiors have expanses of exposed concrete, this being particularly effective in the reception area, with a careful acoustic treatment to balance this with coordinated wall panels with Rockwool behind. The rooflight, lined with reflective material, provides an eye-catching ceiling.

The finishing architectural flourish to this important new building for the city is the dynamic courtyard, with planters running up gold-coloured inner facades with vertically oriented curtain walling contrasting with the exterior. There is a fantastic view of the bridge through the structural diagrid; as well as being attractive, the structure also avoids bracing to office windows, minimising visual disruption.

Conclusion

Cities across the world are thinking about what office buildings should be like after the pandemic, with questions being asked as to the validity of 'standard' offices in urban centres. However, the design strengths of the Beam means it "has probably hit the right note at the right



time," says its architect. In terms of how it provides a simple, low cost but also architecturally considered addition to its context, foregrounding sustainability and employee wellness, Simon Doody believes it represents a sign of things to come. As he concludes, "We might start shifting to more of these sorts of buildings."

The building has been shortlisted for a British Council Offices regional award, and has been shortlisted for the BCO's national award. It has to be in with a great chance, particularly in the light of how The Beam fits so neatly into the national agenda for elevating localities such as this one using good design.

PROJECT FACTFILE

Architects: Feilden Clegg

Bradley Studios

Client: Sunderland City Council Structural & civil engineering: Cundall

Cost consultants: Gleeds **M&E and sustainability:** Desco

Cost: £20m

Net floor area: 5,500 m²

"Bring back the office!" Majority looking forward to workplace return, new research finds

A clear majority of Europeans (84 per cent) are keen to have the office back in their lives, new research has found after a year of widespread homeworking instigated by Covid-19.

While more than half of Europeans (55 per cent) say homeworking is more enjoyable than office working, 85 per cent say the office remains either important or essential – with a lack of social interaction and collaborative working among the most cited challenges facing homeworkers.

The findings are detailed in a comprehensive new report released by Formica Group. Hundreds of workers in six European countries were questioned to understand the emotional and professional impacts of the last year, as well as their feelings ahead of a potential return to office working in 2021. The report, which includes a series of recommendations to create offices better equipped to a post-pandemic future, describes widespread homeworking as "a



technological, management and perhaps most significantly a psychological challenge". As a result, face-to-face and collaborative work is likely to be more valued than ever – with almost seven in 10 (69 per cent) of employees wanting a hybrid working pattern in future.

Jennifer Neale, Marketing Communications Manager at Formica Group, says: "As the path back to officebased work begins to take shape, this report provides crucial emotional context around our desire for shared spaces and professional experiences. It also reveals the depth and complexity of the challenges facing business across Europe."

Nina Bailey, Design Manager at Formica Group, says: "Employers should aim to create flexibility and offer spaces for meetings, workshops and catchups. Because as much as we talk over video calls, it is never quite the same as face-to-face working. By creating spaces that can be open-plan enough, the working sense of community can start to rebuild."

The full report, titled *The Office Awaits:* Reinventing the Workplace for a Post-Pandemic Future, is published by Formica Group and offers a comprehensive insight into the issues facing employees, architects and designers. Download the full report now.

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The new inspired workplace



Arstiderne architects has transformed a large industrial building into a stunning open plan office to house the 180 Sweco employees at a location near Aarhus in Denmark. While the majority of staff work in large open plan spaces they benefit from several smaller self-contained rooms in the centre of the building. These box-like structures, bathed in daylight from the skylights and facade windows, are used for a variety of purposes from a quiet workspace to meetings and socialising. Their design on the original concrete floor contrasts well with the precise finish on their walls. These are clad with **Troldtekt** acoustic panels in an ultrafine finish creating a high performance and aesthetically pleasing appearance. The ceilings and some walls are clad with standard acoustic panels, while specific areas have been decorated with Troldtekt® line which forms part of the award-winning design solutions collection. The lengthwise surface grooves form a continuous pattern across the partitions and reception areas adding interesting texture and depth. Troldtekt was specified across the scheme for its sustainable characteristics coupled with superior acoustics to provide a comfortable working environment.

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IVC Commercial Solutions fulfil the flexibility needs of Birmingham workplace



Carpet Tiles, Luxury Vinyl Tiles and Heterogeneous Vinyl floors from IVC Commercial have been used throughout the interior of a leading Birmingham workplace provider. In a refurbishment scheme over three phases some 2,500 m² of Birmingham office space, Carpet Tiles, Luxury Vinyl Tiles and Heterogeneous Vinyl solutions from IVC Commercial feature within a scheme designed to bring fluidity across the layout. Designed by Overbury, the flooring scheme features river-like organic shapes cut into angular geographical lines. This demanded floors that flowed well together and that had the flexibility to sit with adjacent products across complimentary palettes. The Overbury design team turned to IVC Commercial, choosing Art Style and Art Exposure carpet tiles, IVC 55 luxury vinyl tiles, and Nomad and Isafe 70 heterogeneous vinyl. IVC Commercial's installation solutions were also used within the project with Flexpro self-adhesive underlay and Invisiweld seamless technology. Katy Boulter of Overbury, comments: "IVC Commercial's portfolio gave us the flexibility to create the patterns and palette we wanted to achieve for the layout within a reasonable cost."

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Get it right on the tiles

If you are looking to specify a tiled floor, it is crucial to understand what preparation is required to ensure that new or existing floor substrates are suitable. Stuart Ross of BAL looks at the different likely substrates, and the steps that need to be taken before tiling

Ploating floors are typically those not attached to a rigid substrate, so for example a tongue and groove or chipboard floor on top of a layer of insulation or acoustic material.

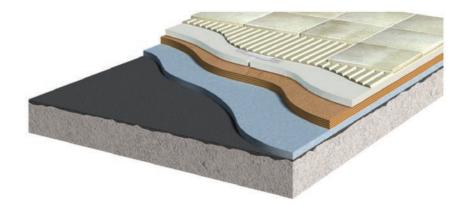
Where this is the case, excessive movement in the subfloor is common and tiling directly to this type of subfloor without additional measures will likely result in the floor failing. As stated in BS 5385: Part 3, clause 6.3.4.4 Floating floor: "Note 2: Direct fixing of ceramic tiles to a wood floating floor entails a high element of risk and where practicable should be avoided." This is because the wooden floor is not supported in the same way as it would be by joists. So, support for the floor is limited.

Some floating floors often include heating pipes as well, which presents further challenges for rigid floor finishes especially where boarded systems are concerned. It is worth noting here however that floating timber boarded systems for rigid tile and stone finishes should be avoided in areas where water-fed heating pipes are installed, as this can cause excessive movement leading to tile failures.

However, where the floor is deemed to be suitable to be tiled, one potential solution is to improve rigidity on non-heated floating floors by over-boarding the floor with 10-12 mm tile backer board or an additional 15 mm WBP grade plywood – sealed with an acrylic primer or SBR sealer.

Boards should be installed staggered, so they do not coincide with any joints in the existing timber layer and leave a slight gap between the boards to allow for expansion. Use a tile adhesive as a bed below the board and screw the board at 300 mm centres, in accordance with British Standards. It is important that installers do not use nails, as movement in the floor can cause them to work free and cause problems down the line.

Even if deflection is taken out of the floor sufficiently, we would recommend tiling with a flexible and highly deformable



S2 tile adhesive, as these have extra polymers to cope with any movement. Please note that even if you overlay the floor, it may still be possible that there is too much deflection in the floor, in which case the floor is unsuitable for receiving ceramic tiles.

We would recommend contacting your adhesive manufacturer, who can provide onsite support to assist as well as further installation guidance.

Timber floors

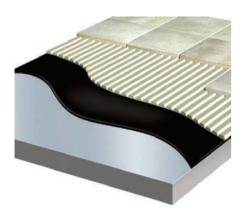
As with floating floors, timber floors should be structurally stable for tiling and be capable of carrying both static and dynamic loads without excessive deflection.

This may mean the need to fit additional noggings between joists and replace any damaged or broken planks.

We would recommend overboarding the timber with either a 12 mm tile backer board or a minimum 15 mm thick plywood of suitable quality, glued and screwed at 300 mm centres ensuring screw heads are flush with the surface.

If the floor needs to be levelled, then consideration should be given to using a suitable fibre reinforced levelling and smoothing compound. You must first prime the surface of the timber with two coats of neat acrylic primer, allowing it to dry between each coat and best practice to

Where a floating floor is on top of a layer of insulation or acoustic material, excessive movement in the subfloor is common, and tiling directly to this type of subfloor without additional measures will likely result in the floor failing



Tiling to the correct type of steel can be achieved, if it is rigid and free from deflection and prepared properly



apply the second coat at 90° to the first.

When tiling direct over timber we would recommend installing an uncoupling mat system. Uncoupling mats provide a "buffer" layer between the timber floor and tiled surface which helps prevent any lateral movement from causing any damage to the tiles.

A suitable highly polymer modified flexible tile adhesive and grout should be specified.

Concrete / sand & cement screeds

Before tiling to concrete or sand and cement screeds, it is essential that the floor is clean and free from any barriers to adhesion, sound, dry and fully cured before tiling. New concrete must be cured and allowed to dry in air for at least six weeks before tiling, while new sand and cement screeds need a minimum of three weeks.

If you're tiling onto a screed that incorporates underfloor heating, there are more considerations before fixing can commence. This includes the proper commissioning of the heated screed before and after tiling. After a minimum three week drying out period for the heated screed, water fed systems should be gradually heated at a rate of 5°C per day from the minimum operating temperature up to a maximum operating water temperature of 45°C as recommended by the heating manufacturer. The heating should be maintained at this level for a minimum of three days before cooling to room temperature. In colder temperatures, maintain the floor at 15°C before tiling.

If heated screed isn't gradually 'commissioned' before tiling commences, movement stresses exerted can damage the screed and the newly applied tiling layer. This is caused by a combination of significant drying shrinkage of the screed occurring, along with additional thermal expansion/contraction.

Electric cable systems keep the heating system off for five days to allow for levellers and adhesives to cure, then gradually turn up by no more than 5°C per day up to a temperature not exceeding 27°C. The heating system should be gradually increased after tiling i.e. 14 days after grouting for normal setting tile adhesives.

Calcium sulphate screeds

Calcium sulphate floors are a common floor substrate nowadays, particularly in new builds, however they require specific preparation before they are suitable for tiling over.

Under ideal drying conditions, these screeds take approximately 1 mm per day up to 40 mm to dry, and an additional two days per mm for screeds greater than 40 mm, e.g. 60 days for a 50 mm thick screed. However, this can often extend during colder periods of the year and higher atmospheric humidity (e.g. above 65 per cent RH). It is important that all barriers to adhesion should be removed after two to six days. Moisture levels should be less than 75 per cent relative humidity or a residual moisture content of lower than 0.5 per cent water by weight when measured using a carbide moisture tester.

Priming is also key before tiling commences on calcium sulphate screeds, as this creates an effective barrier between the gypsum and cement-based products – protecting against an adverse reaction. The primer should also be adequately absorbed into the screed surface, following the manufacturer's advice.

If a fast-track system is needed, there are systems on the market including floating uncoupling systems and DPMs which can reduce the time required before tiling commences.

Steel

Tiling to the correct type of steel can be achieved, if it is rigid and free from deflection and prepared properly. This might involve a suitable mechanical preparation to remove any surface coatings and to expose a shiny keyed steel surface.

To provide a suitable mechanical key to receive a tile adhesive and tile one option is to use a suitable epoxy coating which is sand-blinded as a priming coat. This provides a good key prior to the application of a suitable cement-based tile adhesives or a specialist S2 rubber-crumb tile adhesive.

Waterproofing

Be mindful that if the floor being tiled is likely to be subjected to constant wetting i.e. a wet room or shower/bathroom, then the subfloor should be waterproofed with an appropriate tanking solution. This is to protect the floors from water ingress and prevent porous materials being adversely affected. This is required because tiles, cement-based adhesive and grouts are not inherently waterproof.

Stuart Ross is technical services manager at BAL



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Keystone brick slip feature lintels hold the key to well-executed brickwork

eystone's brick slip feature lintels have successfully balanced the traditional with the contemporary and brought an exceptional level of detailing as part of the Station Approach development, which has been designed and based on the concept of converted Victorian railway buildings.

Close to the Georgian market town of Marlow, Buckinghamshire, and adjacent to a commuter branch line, 'The Old Coal Yard' Station Approach has been built by Bellwood Homes and features three Victorian-style buildings consisting of three, two-bedroom houses; eight, two-bedroom apartments and a one-bedroom apartment. In keeping with the Georgian, Edwardian and Victorian styles of architecture in Marlow, the housebuilder's specification required brickwork which maintained the character and fabric of heritage buildings with Keystone Lintels able to meet the brief.

Working with Bellwood Homes, Keystone's technical engineer designed extra



heavy-duty brick slip feature arch lintels for ground, first and second floor openings with a 1085 mm span and 543 mm rise. Over 40 brick slip arches were manufactured by Keystone's production team to a high quality and consistent finish. Each Hoskins Maltings Antique brick was cut to size and bonded using a BBA-approved construction adhesive to the load bearing lintels. The patented perforated lintel design of a Keystone Brick Slip Feature Lintel allowed the adhesive to

squeeze through the perforations and form a 'mushroom' on the inside, providing a mechanical lock between the steel lintel and the brick slips.

The offsite economical solution did not require skilled bricklayers on site to replicate each traditional arch. This saved approximately labour costs of one bricklayer per arch per day and ultimately, weeks off the project build schedule. All prefabricated lintels were delivered to site and ready for final pointing in line with the phased construction plan of the three buildings being erected. The arches produced in a factory controlled environment were unaffected by torrential rain and winterreduced daylight hours limiting productivity. This often occurs on other build schedules which leads to further delays in creating architectural features with real significance to the landscape.

01283 200 150 keystonelintels.com

Don't let Rusty ruin your render!



When planning an outdoor rendering project it's important to remember to choose beads made of stainless steel or PVCu. Building requirements outlined by NHBC and LABC, only advocate the use of austenitic stainless steel or PVCu beads in all external rendering applications, anywhere in the UK. Galvanised steel beads are no longer accepted for external rendering in any situation. But don't worry, Simpson Strong-Tie's extensive range of beads and mesh make plastering and rendering simple. Our SAB-S Standard Angle Bead has been designed to prevent chipping and cracking to vulnerable corners. ERS-S Render Stop Bead provides aesthetic, enhanced weathering detail, along with reinforcement to resist impact damage. The PSB-S Mesh Wing Plaster Stop Bead has numerous potential applications internally and externally including those at openings, abutment of walls and for ceiling finishes. The MVB-S Movement Bead consists of two lengths of Stop Bead linked with a white PVC extrusion. For rendering and plastering made simple, download the Simpson Strong-Tie catalogue which is packed with handy tips and installation guidance... and make sure you stay away from Rusty!

01827 255600 www.strongtie.co.uk/resources

Staggering success!



Water penetrating cavity wall masonry above stepped and staggered gables is controlled using approved Cavitrays. The only gable abutment system awarded European Technical

Approval is manufactured by the UK specialist Cavity Trays Ltd. The DPC tray adjusts to suit the cavity width being formed, ensuring compliancy and compatibility. Available with attached lead or synthetic flashing options, to dress over soaker or secret gutter upstands, or directly over appropriately shaped tiles.

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Environmentally friendly entrance

GEZE's automatic doors provided the perfect solution for a new building where environmentally friendly criteria was at the heart of its design. When CABI needed a new home to replace the old school building they had been in for 33 years and now required a high level of maintenance they turned to international design practice Scott Brownrigg. A GEZE Slimdrive SCR automatic curved sliding door was chosen to provide a light and airy all-glass lobby entrance which blends seamlessly into the facade. The circular entrance features two sets of automatic bi-parting curved glass sliding doors, creating a lobby that minimises heat loss or gain and so helps to contribute to the building's environmental credentials. In addition the Slimdrive SCR combines high performance with unobtrusive operation – the drives are just 7 cm in height and very discreet. Ed Hayden from Scott Brownrigg said: "We are extremely proud of the CABI Headquarters".

01543 443000 www.geze.co.uk

Senior blends old and new in Doncaster

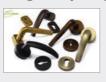


Senior Architectural Systems has helped make local history by playing a key role in the construction of the new Danum Gallery, Library and Museum in Doncaster. A key focal point of the scheme, and one that looks even more dramatic at dusk, is the restored

frontage of a former Victorian school which has been framed by Senior's slimline SF52 aluminium curtain wall and showcased within a new steel-frame building. The striking glazed facade, which was fabricated and installed by Senior's supply chain partner Chemplas Ltd, also features Senior's robust aluminium commercial doors.

01709 772600 www.seniorarchitectural.co.uk

Elegant sprung "lever lever" door handles



Steel Window Association member, Steel Window Fittings (SWF), has developed a new collection of handles and accessories to enhance and secure today's striking steel doors. The SWF range comprises of three lever options, each available on an oblong or

round rose backplate and matching Key or Euro Cylinder options also on oblong or round rose backplates. Options do not end there; the stunning finishes on offer are Antique Black, Antique Brass, Brushed Brass, Dark Bronze, Gun Metal, Oil Rub Bronze, Satin Chrome, and matching RAL colours are available on request.

www.steel-window-association.co.uk

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ALUCOBOND® A2 | PLUS

ALUCOBOND® is the original aluminium composites material



- ALUCOBOND® A2 and PLUS have been in continuous production for over twenty years.
- 3A Composites, the manufacturer of ALUCOBOND®, has only promoted and sold fire retardant material since 2013, pre-dating regulation changes.
- ALUCOBOND® A2 and PLUS were tested to BS8414 large scale tests pre June 2017.
- 3A Composites is member of the MCRMA and furthermore collaborating with National & European Authorities to enhance regulations and standards.
- 3A Composites has strategic partners enabling comprehensive training on design, fabrication and installation.

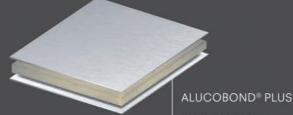
Erie Basin, Salford Quays, Manchester ALUCOBOND® A2 special colour FK Group | @ John Kees Photography



Sales Manager UK / IE

+44 75 84 68 02 62

Paul Herbert



consisting of two aluminium cover sheets and a fire-retardant mineral-filled core (70%).

For rear-ventilated façades, we recommend ALUCOBOND® A2 (EN classes A2-s1, d0) or ALUCOBOND® PLUS (EN classes B-s1, d0) in combination with non-combustible mineral insulation. This combination shows no flame propagation or critical temperature rise, and even exceeds the requirements of BR135.



Hygienic pedestrian traffic control from TORMAX

ffering a modular solution to the pressing need for shops, offices, public buildings and schools to more closely regulate the number of people entering their facility, TORMAX has launched a new add-on module, TORMAX count+go.

Working in tandem with any TORMAX sliding or folding automatic entrance, this module effectively controls the number of people entering an area, setting the door to close when a pre-set limit is reached. It also synchronises the timing of entry to ensure a hygienic physical distance is maintained between individuals.

"The TORMAX count+go module is quick and easy to install and doesn't require any extra sensors, instantly freeing up a member of staff from having to stand at the doorway regulating access," said Simon Roberts, md for TORMAX UK.

"Monitoring foot traffic is good business practice, even when social distancing rules are relaxed, ensuring health and safety regulations aren't breached and helping provide a relaxed and welcoming



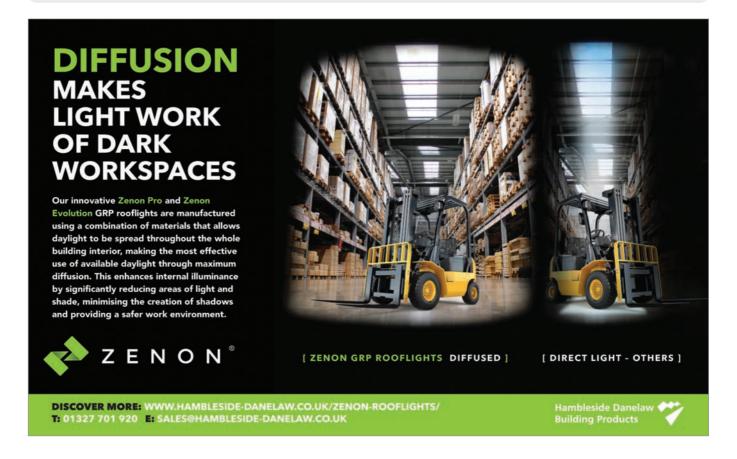
environment for everyone." In addition to closing the doors when the maximum number of people entering an area has been reached, TORMAX count+go issues a clear acoustic signal to alert pedestrians to wait. As soon a person exits the building, bringing the number back down, the door returns to the open operating mode.

For further visual announcements to users, TORMAX count+go is also available with an

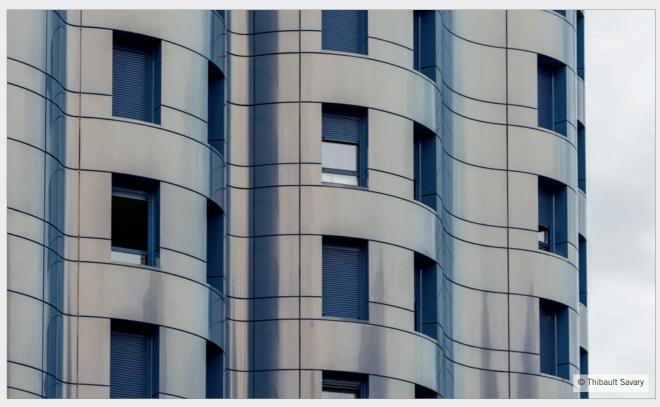
elegant display stand featuring a large monitor for customized messaging. A second monitor can also be integrated as a digital advertising panel.

Operated via smartphone, tablet or laptop, TORMAX count+go is quick and simple for staff and employees to programme and manage on a day-to-day basis.

01932 238040 www.tormax.co.uk



ALUCOBOND® new brochure tackles the hot issue of fire safety and cladding & material choice



LUCOBOND®, from 3A Composites GmbH, has launched an educational and informative brochure that details how to select the right Aluminium Cladding Material (ACM) to ensure the maximum fire protection according to the current regulations.

The 14-page guide titled 'Fire Safety of Facade Cladding – Selecting the right materials to keep people safe is essential' takes the architect, specifier or building designer through the often complex rules that apply in terms of fire and simplifies the process of how these rules can be translated into materials choice.

From an overview of the components of rainscreen cladding and the purpose of each, the guide examines the advantages of the rear ventilated facade design, before moving on to the notions of fire. These notions include explanation of classifications in fire regulations, building categories, fire reactions,

as well as an Ignitability test ISO 11925-2, SBI test (single burning item) EN 13823, Gross calorific potential test ISO 1716, Non-combustibility test ISO 1182, and BS 8414 large scale tests and the classifications of ALUCOBOND®'s PLUS and A2 panels with respect to these tests.

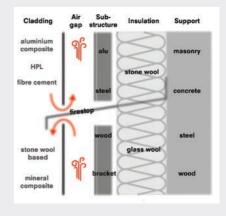
The types of different rainscreen cladding materials and the performance of cladding in the event of fire are also explained, as well as the impact of 'debris', which can fall and injure occupants or cause secondary fires.

The potential issue of toxicity is also covered, with smoke inhalation known to be the most common cause of death and injury in a fire.

The advantage of ALUCOBOND® with regards to bonded stiffeners, is also detailed, before concluding with advice on what to consider before choosing the facade materials for your project for all types of materials and in particular aluminium composites.

The guide is available to download via alucobond.com/products/fire-safety

Paul Herbert, Sales Manager 07584 680262 www.alucobond.com





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what really sets it apart is that it's barely visible from the inside. In fact, it's been so successful in independent testing, it even won the British Glass Focus award for Innovative Solutions.

See more at pilkington.co.uk/avisafe





Wytham Chalet External Steel Staircase by Spiral UK

ot all fire escapes are created equal – some are designed beautifully so that their form does not strictly follow function but enhances it.

The stair at Wytham Chalet is one such structure, its linear caging providing much needed security yet creating an aesthetic that mirrors the surrounding tree trunks. Dappled shadows from leafy canopies play tricks on the eye, bringing what could have been a perfunctory build element to life.

Spiral UK were invited by specialist contractors Richard Ward Ltd to work with Oxford Architects on this rather special project. Oxford Architects were managing the refurbishment and modernisation of the chalet belonging to Oxford University in its use as a specialist teaching space. Now a Listed Building just outside Oxford city centre, the chalet started life as a Swiss Hunting Lodge that was dismantled brick by brick in the 1930s and transported to its current site before being gifted to the university in 1942.

Oxford Architects and Richard Ward were careful in their restoration of this historic building, bringing it up to fire safety and building regulation standards - once the resident bats were deemed safe, that is. Part of these works involved a fire escape that needed to pass strict guidelines by both Listed Consent and Building Regs. Spiral UK engineered the design to create a secure escape stair that sat apart from the precious building, only touching at two exit points, and incorporated the security of full height steel bar balustrading and an outwardopening gate at the bottom. This prevented intruders while still allowing quick and safe exit from the building. The stair itself is a hotdip galvanised (EN ISO 1461), mild steel spiral and the enclosure was powder coated in RAL 7021, finishes that will last for many years to come.

The result is a subtle yet striking design that sits beautifully in the landscape, blending successfully with both the darkness of the chalet and the shapes and shadows of the surrounding woodland.

For more information or to book an online CPD email info@spiral.uk.com

0330 123 2447 spiral.uk.com



AT A GLANCE

Floor to floor height: 2880 mm +

2688 mm

Staircase Diameter: 2100 m

Risers: Open

Treads: 27 @ 1050 mm radius in durbar plate with nosing tape **Clear tread width:** 822 mm

Landing: Two special landings of overall 2850 mm x 2150 mm

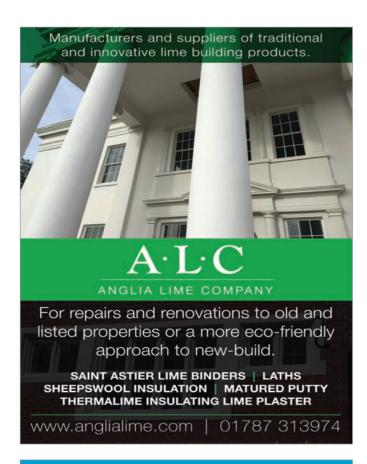
durbar plate

Balustrade: Formed from outer enclosure with 38 mm diameter inner and outer tubular handrail

Other: Enclosure comprising 27 mm diameter CHS vertical uprights extending to 1.1 m above top landing, with access control system to bottom gate. All mild steel hot dip galvanised to EN ISO 1461. Enclosure, vertical columns and balustrade only having powder coated finish to RAL 7021

Guide price: £40,000





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HORMANN

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When balcony decking needs to be specified or replaced – in order to address combustibility requirements – it can bring about challenges with design, planning, and satisfying residents seeking a timber finish.

Thanks to the timber look and feel, Blazeboard is the most aesthetically pleasing product out there which is a huge positive for architects, planners and residents alike – with its superior acoustics and longevity keeping all parties delighted for many years. Designed as a like-for-like replacement for timber which achieves the combustibility

requirements of Approved Document B, and Regulation 7; Blazeboard has A2-s1-d0 rating in accordance with EN13501-1.

Here at Blazeboard, we know that it is rarely as simple as just 'choosing' decking!

That's why our team of industry experts are committed to engineer a suitable substructure design for any project. We will utilise design reviews, site inspections, BIM modelling, and bespoke detailing as necessary (for example, we will comment on your designs to advise on compliance with BS8579).

Our material technology has amazing workability that allows boards to be cut, set out, and worked, just like wood. Uniquely, Blazeboard has the same colour and performance throughout its 25mm depth which means cut ends look good without any treatment, and no painting is necessary. Standard board widths are 150mm and 200mm however we can manufacturer bespoke sizes for larger projects.

So, whatever challenges you are currently facing, Blazeboard can work with you to create a spectacular solution that ticks every box.







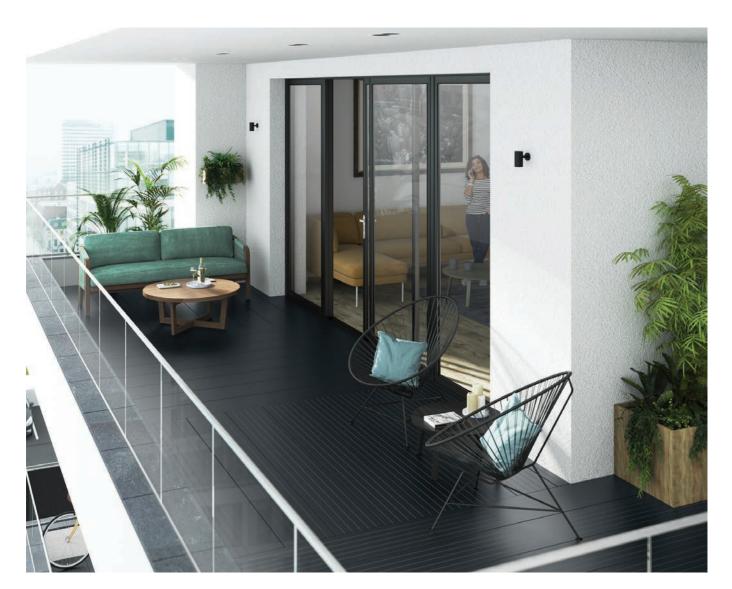
Call Blazeboard on **01442 894965** or email **info@blazeboard.co.uk**

www.blazeboard.co.uk



The safe bet for decking

William Hogg of Ecodek discusses the options for blending safety standards and sustainability with striking design when it comes to aluminium decking



he specification of non-combustible building materials in the design of high-rise buildings has never been such a prevalent issue for architects, with balconies, roof terraces and walkway constructions demanding fire rated profiles to qualify as compliant.

Following the Hackitt Review, it has become a legal requirement for any material used in the construction or refurbishment of high rise building envelopes 18 metres or above to be non-combustible fire rated.

As a result, a new British Standard was developed – BS 8579:2020 – with the aim of setting a benchmark for quality and functionality in the design of balconies and terraces.

A panel of experts, including architects, balcony manufacturers and structural engineers, as well as fire safety, drainage, acoustic and accessibility specialists drafted



With increased demand within the construction industry for terrace balcony and walkway systems to be manufactured from non-combustible materials, safety and practicality remain paramount priorities

the standard; which in turn has led to a need for appropriate materials to be sourced by architects and applied to relevant development projects.

The new directives add to an already increasing requirement for environmentally viable building materials to fit specification criteria, and for designers and suppliers alike to think in terms of safety alongside sustainability.

With increased demand within the construction industry for terrace balcony and walkway systems to be manufactured from non-combustible materials, safety and practicality remain paramount priorities, so by manufacturing decking systems using premium quality recycled aluminium, neither style, nor sustainability need to be compromised.

Creating an impact with safer standards

Limiting the amount of time installers must work at height is another prevalent issue, and an area where decking solutions designed as complete systems – not simply individual boards – help in raising safety standards.

When decking profiles can be prepared for use on or off site, construction teams can help to reduce onsite and off-ground labour timescales.

This principle can be applied to balconies made using aluminium decking systems, as structures can be prefabricated in safe working environments prior to site delivery and installation. Once constructed, the balconies can be craned into position and appropriately fixed into place using the individual decking system's specific installation processes and mechanisms.

Safe steps to a stylish solution

A decking's non-combustible properties are essential, however when specifying, slip hazard potential must be seriously considered.

Aesthetically, board profiles should have the capacity to offer a sleek and modern aesthetic together with architectural interest, however it's vital that a deck's design makes it safe to walk on.

In making architectural specifications, it's important to choose a design profile that also reduces the risk of slipping. Certain decorative grip coatings can dramatically assist with this and limit slip potential in both wet and dry conditions, with suitable options available for domestic and commercial purposes.

The right decorative coatings used in aluminium decking production are capable of increasing safety performance. For example, boards coated and certified as Qualicoat 1 (Seaside grade) deliver upon an internationally recognised standard that's rigorously sampled and tested for appearance, consistency adhesion, and weather and pollutant reactions. Standards of this level can cover more than twenty different tests depending on the material, with most assessments conducted under ISO or EN regulations.

A sustainable status

It's critical that decking systems installed nowadays perform reliably in terms of use, safety and durability. However, a building material's sustainability credentials must also be considered, as manufacturers of non-combustible solutions continue to recognise a wider remit in terms of responsibility.

William Hogg is managing director of Ecodek – part of the Epwin Group Plc



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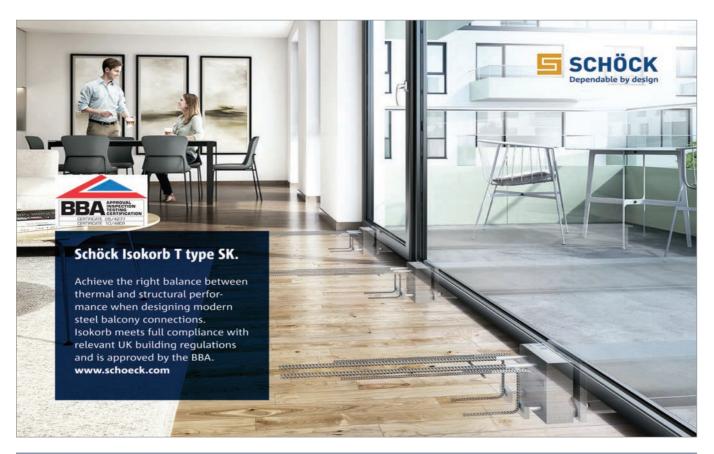
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Outstanding insulation solution from Sto



A new hospice building in the Midlands has shone the spotlight on **Sto's** ability to provide an integrated package of proven insulation products. The company's StoTherm Classic M system was specified for the new Day Hospice building at

Mary Stevens Hospice in Stourbridge. Sto products were originally used on the extension and refurbishment of an In-Patient Unit, which represented Phase One of the hospice's ongoing development. This building subsequently went on to win two RIBA architectural awards in 2015. The new Day Hospice building represents Phase Two of the project, and was designed by KKE Architects of Worcester.

0141 892 8000 www.sto.co.uk

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If you like to be kept informed of all the latest news, views, and promotions for the architectural community, the ADF email newsletters can offer you regular updates straight to your inbox. The weekly Editor's Choice newsletter includes top news stories curated by the ADF editorial team, while the

monthly CPD Focus and fortnightly ADF Newsletter offer updates on products, services, events, and learning opportunities available from a wide variety of manufacturers and suppliers.

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New textured finish added to portfolio



Tata Steel is delighted to introduce Colorcoat Prisma® in a new Textured finish, as part of its pre-finished steel offering for roof and wall cladding. Designed to offer a uniquely textured look and feel, the new robust finish from Tata Steel combines contemporary aesthetics with the durability and long-life performance that the Colorcoat Prisma® brand is known for.

Providing a true matt look, the textured effect adds an exciting illusion of depth and a multi-tonal feel to the pre-finished steel, while simultaneously helping to minimise light reflectance.

www.colorcoat-online.com www.tatasteeleurope.com

Introducing Synergised™



Synergised™ is a new stunning aluminium A1 and A2fl-s1 fire rated decking system designed for both residential and commercial environments such as high-rise balconies, walkways, roof terraces, pubs, gardens, and all other decking applications, especially in

high traffic public areas. Available at F.H. Brundle, the SynergisedTM range of aluminium decking products comes in three contemporary colours and is manufactured from structural grade 6063 T6 aluminium with a 100-micron QualicoatTM premium powder coating that is low slip and provides low surface temperatures underfoot.

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Garador launches new Slategrain sectional garage doors



Garador has introduced an exciting new surface finish, Slategrain, for its popular sectional garage door range. The new Slategrain surface finish imitates the fine grained and foliated surface texture of the naturally occurring rock, Slate.

Slategrain is available for Garador's Linear Medium and Linear Large door models and comes in two colours, Traffic White (RAL 9016) and Anthracite Grey (RAL 7016), for a clean, contemporary appearance.

Garador's sectional garage doors also offer many other advantages, including 42 mm thick fully insulated door sections to reduce heat loss and potentially lower energy bills. The door's exceptional thermal performance is illustrated by a U-Value of 1.30 W/m²K.

Weather seals on all four side of the garage door, as well as between the individual door sections, helps to prevent drafts and water ingress inside the garage. Garador's sectional garage doors also lift vertically and run on tracks back into the garage, offering maximum drive-through width and height.

01935 443722 www.garador.co.uk

Apartment warms to Spacetherm® Wall Liner



A classic Parisian apartment is benefitting from the thermal effectiveness of the introduction of the innovative ultra-thin Spacetherm® WL insulation. Property owner Keirnan Murphy explains: "We are very pleased with the results and we noticed that when leaning up against the

Spacetherm WL you can feel your back warm against the insulation. The **A. Proctor Group** were extremely helpful in addressing all the questions from the architect and ourselves. They also provided comprehensive support and guidance to our builder on the installation."

01250 872261 www.proctorgroup.com

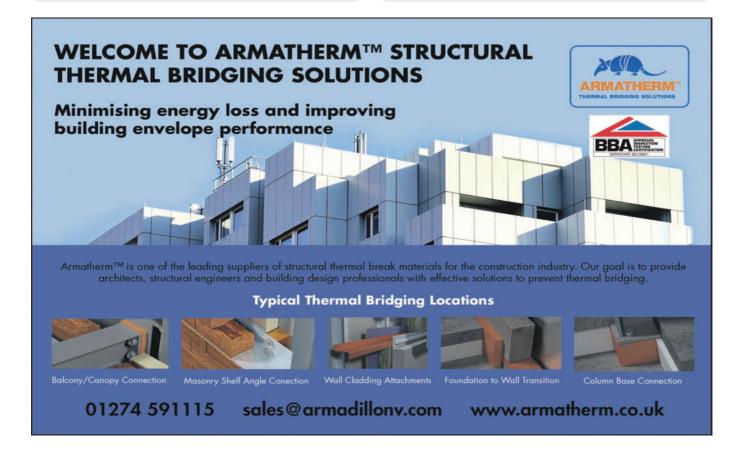
ROCKWOOL® expands flat roof range



In its latest step to help specifiers and contractors mitigate fire risk in the fifth facade, ROCKWOOL has launched HARDROCK UB34, an insulation solution specially designed for parapet walls and upstands on flat roofs. HARDROCK UB34 has been fully tested and

classified as Euroclass A2-s1, d0, meaning it's suitable for use on buildings over 18 metres that are affected by the ban on combustible materials. HARDROCK UB34 is manufactured with a ROCKWOOL base slab and has thermal conductivity of 0.034 W/mK, helping to reduce thermal bridging through roof upstands.

01656 862 621 www.rockwool.com/uk/flat-roof-hub





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ROCKWOOL® unveils Interactive City for easier specification and product visualisation



ROCKWOOL has further enhanced its range of resources for specifiers, contractors and building owners with the launch of the ROCKWOOL Interactive City, a 3D environment that makes visualising, specifying and learning about its non-combustible stone wool insulation easier. Intuitively designed using cutting-edge augmented reality, the ROCKWOOL Interactive City allows users to explore its solutions across the whole of the built environment from housing and offices, to transport hubs and education in a single simulated space. Through features like zoom, 360° views and pan-able application build-ups, the city provides a virtual 'handson' experience when it's not possible to touch, see or hear products in practice. Featuring a wide variety of applications, the tool can also be used to explore the versatility of ROCKWOOL's solutions, understanding where its non-combustible products can enhance thermal, acoustic or fire performance in places users might not expect. As well as saving specifiers' time and aiding building design, these capabilities lead to smoother, faster decision making and a more collaborative process for project stakeholders.

01656 862 621 www.rockwool.com/uk/interactive-city

HVAC ensures comfort in car showroom



Independent car retailer Motorpoint was looking to improve year-round comfort for visitors to its store in Chingford. Panasonic distributor, AMP Air, worked with CSD Air Conditioning to provide the ideal energy-efficient HVAC solution to the showroom featuring Panasonic's triple split cassette system with $nanoe^{TM} X$, which would work in

tandem with a single split 7 kW unit. nanoe™ X is a technology that collects invisible moisture in the air and applies a high voltage to it to produce "hydroxyl radicals contained in water". Hydroxyl radicals inhibit the growth of pollutants such as certain bacteria and viruses.

01344 853 393 www.aircon.panasonic.eu/GB_en

Vent-Axia welcomes BMJ editorial



With further easing of lockdown restrictions, pubs, restaurants, gyms, offices and other businesses have prepared for reopening by checking and improving their ventilation. The importance of good ventilation in helping reduce transmission of Covid-19 has been highlighted once again in new advice published in

an editorial in the British Medical Journal (BMJ). According to experts in the editorial, any future attempts to reduce the spread of Covid-19 should be focused on tackling close airborne transmission of the virus. "We welcome this latest advice from the experts set out in the BMJ editorial" said Jenny Smith, Head of Marketing at Vent-Axia.

0344 856 0590 www.vent-axia.com/dilutethevirus

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Key features

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- ▶ 3 inlet spigots for simplified multi-room extraction
- ▶ 204x60mm spigots allowing direct duct runs from the unit,









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Consort Claudgen launches 2021 Heat brochure



Consort Claudgen, the UK manufacturer of electric heating products, have published their latest brochure which introduces three large recessed air curtains ranging from 8 kW to 24 kW rating, and two downflow fan heaters.

The RAC10HL, RAC15HL and RAC20HL air curtains feature eight heat settings, eight fan speeds, and are simple to install and maintain. They are supplied with a colour touchscreen electronic controller that is loaded with smart features and easy to programme.

The DF2 and DF2SL downflow fan heaters provide rapid warmth and adjustable heat output of 1 kW or 2 kW at installation. The DF2 has a pull cord switch that operates on a 30-minute run-back timer. The DF2SL has a variable thermostat and requires a separately purchased wireless controller. Both are suitable for use in bathrooms, kitchens or drying rooms.

01646 692172 www.consortepl.com

The latest UK Government Hub opens in Leeds with air distribution products by Waterloo



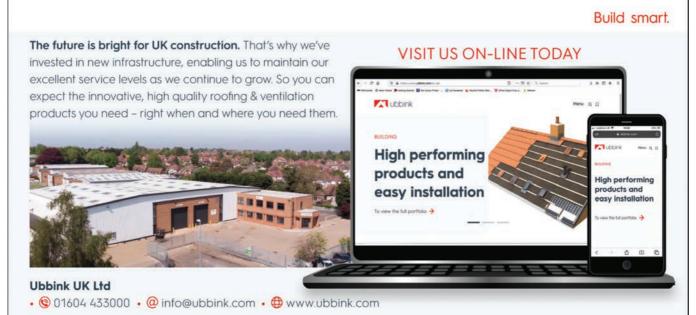
Thanks to Waterloo's extensive range of diffusers, grilles and valves, it was possible to achieve the required superior standard of air distribution throughout the seven-floor, 378,000 sq ft building without compromising the desired aesthetics of the interior fittings. Working with principal contractor Wates Group, Waterloo was chosen due to its ability to supply products that would accommodate the client's preferred perforated ceiling tiles without any need for modification. "Waterloo offered a professional service and brilliant support throughout the design stage of the build," said Matt Bell, Project Engineer with Wates Group. "We were invited to develop the concealed grille solution at Waterloo's integral testing facility, and they provided test reports to supplement the technical submission; this gave us confidence we were selecting the right product to meet the project requirements. Overall, the service we received was fantastic. The products were delivered on time, manufactured to a high standard and ultimately we handed over the building to a happy client." Waterloo is currently running CIBSE CPD Webinars. Register at www.waterloo.co.uk/cpd-and-training

01622 711500 www.waterloo.co.uk

A bigger, better Ubbink



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ADF JUNE 2021 WWW.ARCHITECTSDATAFILE.CO.UK

Launch of invisible mini heat recovery unit



Vortice has launched a mini heat recovery unit, the Vort Invisible Mini, specifically designed for small apartments, offices and hotel rooms with a surface area of up to 80 square metres. This is the latest in a whole family of heat recovery units which make the best use of energy efficient

technology and also allow filtration of the air to ensure excellent indoor air quality. The Vort Invisible Mini is easy to install in a false ceiling, has accessible wiring and is simple to set up at installation, including settings for fan speed, relative humidity, time interval of sleep mode and activation temperatures of free-cooling mode.

01283 492949 www.vortice.ltd.uk

Fibo expands its new Urban Collection



Leading waterproof wall panel manufacturer, Fibo, has added two new designs to its Urban Collection. Reflecting the latest interior trends, the Herringbone and Hexagonal designs join the popular Metro Brick, which was launched last year. The versatile collection now offers greater possibilities for creating contemporary bathrooms

and kitchens, without compromising on ease of installation, maintenance and performance. Inspired by the patterns found within cities, Urban Collection consists of designs that are softer than traditional industrial styles, yet still embrace the urban aesthetic.

01494 771242 www.fibo.co.uk/bathroom/the-new-urban-collection

AET'S shortlisted for Sustainability Award



AET Flexible Space have been shortlisted for the Sustainability Award at the EG Tech Awards 2021. Underfloor air conditioning technology is a sustainable alternative to traditional ceiling-based systems, and the judges were particularly impressed with the results of using it in a

redevelopment project of a 1930s Clerkenwell factory, Harella House. Benefits seen in the redevelopment include high energy efficiency, and significantly reduced $\rm CO_2$ emissions. The system's flexible approach gives the end-users of office spaces complete control over how they are used and ensure a longer lifetime for the air conditioning system.

01342 310400 www.flexiblespace.com

Washroom and Cre8 celebrate



Washroom and joinery companies, Washroom Washroom and Cre8 Joinery Solutions, are celebrating an impressive 20 years in business together this year. The Washroom Group has enjoyed consistent growth over the last 20 years to become a major force in the commercial washroom and joinery

market. It now operates as three separate but connected businesses – Washroom Washroom, Cre8 Joinery Solutions and WeIntegre8 packaged contractor solutions. All three aim to deliver high specification bespoke washrooms, showers, changing areas, bespoke joinery and interior fit-outs for the commercial and leisure sectors.

www.cre8joinery.co.uk www.washroom.co.uk





www.lg.com/uk/heating

The Monobloc contains fluorinated green house gases (R32)



Air to Water Heat Pump

The shift to low carbon heating systems is closer than you think. Discover how LG's innovative Therma V Air-to-Water all-in-one, Monobloc Heat Pump can help you be prepared.

The Mobile Shower Change Trolley



Pressalit, one of the leading Scandinavian designers of accessible bathroom solutions, has introduced a new Height Adjustable Shower Change Trolley, suitable for both adult and child environments in Changing Places facilities, schools or institutions. The shower and changing trolley has been

created by Pressalit's award-winning designers to combine a height adjustable changing table, with the option to use as a waterproof shower trolley. This flexibility is a valuable addition to any accessible or Changing Places bathroom, in wet or dry environments.

0844 8806950 www.pressalit.com

The beauty of space in the home



Clever, beautiful, design-led wardrobe and room divider solutions from **Draks** are renowned in the housebuilding and residential markets in the UK where hundreds of bespoke, quality installations have been completed over the past 25 years. A new, crisp, easy-to-

navigate website – www.draks.co.uk – has been launched to illustrate the company's continued prowess today; and it reflects the sheer skill of the team in creating stunning space-saving storage and room-dividing solutions for the ultimate in stylish home comfort.

www.draks.co.uk

Classic Duo Oval leads the way



Bi-colour bathtubs are a must-have statement piece for modern bathrooms. The Classic Duo Oval from Kaldewei is the perfect example of this trend. With its simple oval shape and coloured panelling that surrounds the elegant steel enamel bathtub it creates a striking feature in any

bathroom. Available in alpine white, alpine white matt, black gloss and lava black matt, the range of colours enables a multitude of combinations for bi-colour baths. The free-standing Conoduo and Ellipso Duo Oval models are also available with coloured panelling.

01480 498053 www.kaldewei.co.uk

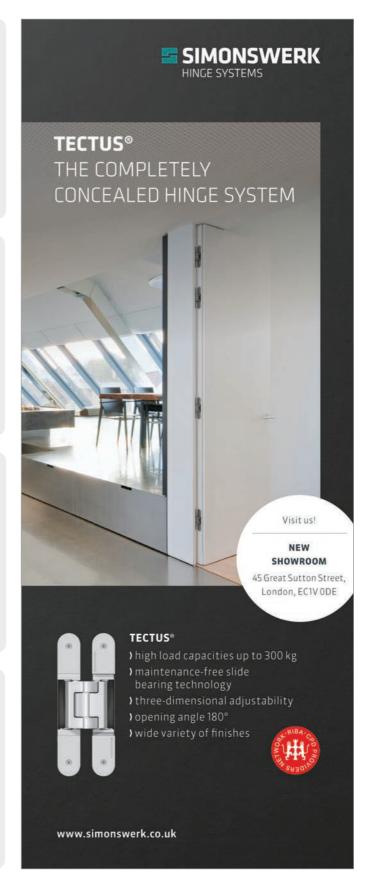
Hunter Douglas supplies new ceiling



The Ahoy Convention Centre in Rotterdam has replaced its existing ceiling system with a range of new, innovative and sustainable applications developed by Hunter Douglas Architectural. The world-renowned manufacturer of architectural ceiling systems replaced more than

17,000 m² of ceiling with a range of modern and durable systems. Luxalon® Exterior Ceilings were selected for the outside because they are made of special corrosion-resistant aluminum and developed to withstand the most extreme weather conditions. The award-winning HeartFelt® modular felt ceiling was also installed at the stadium.

01604 648229 www.hunterdouglas.co.uk



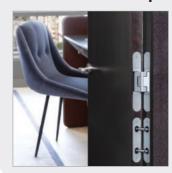
P C Henderson expands range of Pocket Door Systems with new bi-parting fire rated system



P C Henderson has further expanded its range of pocket door systems with the launch of a brand new fire rated system for bi-parting doors. Originally launched for single doors back in February 2019 – this latest release of the company's popular Pocket Door Pro system caters for bi-parting fire doors weighing up to 120 kg and is fully certified to FD30 British and European standards. The new system is available in standard and soft closing options, seven different kit sizes, for two different finished wall thicknesses, self-closing and non self-closing variants and a simultaneous action kit available as an optional extra. Andrew Royle, Sales and Marketing Director at P C Henderson, commented: "We designed Pocket Door Pro with one key aim in mind – to create one of the most flexible and versatile range of pocket door systems on the market. As the popularity of pocket door systems continues to rise – it's important that designers and developers have access to a system which can cater for virtually any type of application and in a number of different operation types. We believe we have achieved this through the development of Pocket Door Pro".

0191 377 7345 www.pchenderson.com

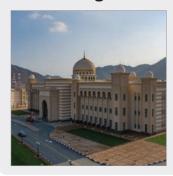
New door closer opens more opportunities



Samuel Heath and SIMONSWERK, two of the industry's leading designers and manufacturers of architectural ironmongery, have created Powermatic Axis, a controlled, concealed door closer which opens more opportunities for specifiers wishing to maintain a clean appearance to doors and interiors. The door closer is specifically designed to work with SIMONSWERK's popular TECTUS concealed hinge system. In addition to fully adjustable closing speed, it also features vertically adjustable anchor plates, making it compatible with the adjustability of the TECTUS hinge. The door closer carries both UKCA and CE marks and is suitable for use on one-hour and half-hour fire doors. It will also enable doors to meet relevant accessibility requirements stipulated by Approved Document M and BS 8300-2: 2018. With both the TECTUS hinge and Powermatic Axis door closer being totally concealed when the door is closed, the combination of both products assures the aesthetics of the door and facilitates continuity of design throughout the project. Full details can be obtained by contacting Samuel Heath at info@samuel-heath.com

0121 766 4200 concealeddoorclosers.com

Plain sailing at the Arab Marine Academy, Khorfakkan



The Arab Academy for Science, Technology & Maritime Transport (AASTMT) at Khorfakkan in the Sharjah Emirate have installed energy saving luminaires from Luceco. In partnership with energy partner MLTC, Luceco provided an energy efficient lighting solution and supplied Carbon downlights, Eco LuxPanel, FType downlights, Atlas bulkheads and Climate luminaires throughout the facility. The FType downlight family includes FType Fixed, FType Adjustable, FType Dim2Warm and FType Colour Change, all comprising of low glare crystalline lens and die-cast aluminium thermal rod heatsink, with speed and ease of installation guaranteed due to Clip & Fit and Speed Fit wiring. FType is also I-Joist certified in accordance with BS 476-21 for 30 minute I-Joist ceiling applications. Super-efficient Samsung LED chips deliver 100 Llm/cW, with FType also offering leading and trailing edge dimming compatibility as standard. Luceco has just launched the new FType Compact Fire Rated Downlight offering IP65 on fixed optics, and compliance to Air leakage Part C and acoustic Part E of the building regulations, as well as a five year warranty.

01952 238 100 www.luceco.uk

F. Ball launches floor finishing compound



F. Ball and Co. Ltd. has launched Stopgap Micro Rapid, a new ultra-smooth, flexible, rapid-drying floor finishing compound for creating a flawlessly smooth subfloor finish. Stopgap Micro Rapid can be applied to a seamless feathered edge to fill indentations formed by screws used to secure plywood and hardboard sheets as well as the gaps at joints between the panels. It can also be used to

repair minor surface defects in a wide range of other absorbent surfaces, including sand/cement and calcium sulphate screeds. It is ideal for use where an ultra-smooth surface is required.

www.f-ball.com

Modern Victoriana



From decorative touches that evoke a hint of art deco glamour to patterns and colourways that hark back to bygone Victorian eras, CTD Architectural Tiles boasts a broad portfolio that will meet the demands of the modern victoriana trend. Modernista exudes

traditional charm with a hint of contemporary opulence. A glazed ceramic wall tile range, Studio provides designers and specifiers with the opportunity to create standout traditional spaces. Offering virtually unlimited design possibilities, the Neri collection is comprised of four classic neutral shades: White, Bone, Sierra Sand and Silver Mist.

0800 021 4835 www.ctdarchitecturaltiles.co.uk

Opening the door to better hygiene

In healthcare environments, infection control is of course a critical concern. Tim Checketts of dormakaba discusses the door and access control solutions that can help to minimise the spread of germs and bacteria

The design of healthcare buildings must balance a wide variety of considerations: Reliable round the clock security must be maintained for the safety of staff, patients and visitors, while movement into and through the building must be as easy as possible for all users. In addition to this, the nature of the environment means that hygiene and infection control must be key priorities. Taking a holistic approach to the design of door and access systems and selecting the correct solutions can ensure that all these objectives are met.

Door controls

One of the most effective ways of improving hygiene through reduced contact with surfaces is by specifying automatic doors wherever feasible. There are a range of solutions available to suit different requirements and areas of the building. Starting at the entrances, there are automatic revolving, sliding and single and double leaf swing door options. Moving inside the building, many of the internal doors can easily be made to operate automatically by utilising automatic swing door operators linked to sensors in place of standard door closers.

Additionally, for refurbishment projects, manually operated doors can be upgraded simply and cost effectively through the same replacement of the door closers. Also, depending on the system and manufacturer, it may also be possible to upgrade manual or 'servomatic' revolving doors to fully automatic operation by replacing the control module.

Alternatively, in some situations, greater user control over door opening may be required. For example, on doors in high traffic areas the use of motion detectors may cause unnecessary opening of the door as people pass by. Here, button operated doors are a common solution to ensuring ease of access for all users of the building, while preventing unintentional activation.

However, from an infection control





perspective, these are not always ideal as the surface of the button or plate needs to be cleaned regularly to prevent the spread of germs. Instead, contact free sensors can be utilised that use microwave detection for activation. These controls allow doors to be opened by the simple motion of a hand in front of the sensor, with no contact required.

Despite the advantages of automatic doors, there will be places within a building where it is not possible or even desirable to adopt this method. Here, manually operated doors can be made more hygienic by specifying door hardware with anti-microbial properties. Products that feature a silver-ion based anti-microbial finish will inhibit the growth of bacteria by disrupting the key cell functions. Although the hardware will still need to be cleaned regularly, as with any surface in the building, this finish will help limit the spread of potentially harmful bacteria.

Furthermore it is also worth considering measures to reduce interaction with doors as they move through the building. The fire regulations and the building's compartmentation strategy may dictate the need for fire doors in certain locations, however there are solutions that allow compliance to be achieved in a way that minimises physical interaction and improves ease of movement.

Electro-magnetic hold-open or free-swing door solutions can be specified in place of standard fire door closers. These allow doors to remain open during regular use but will automatically close the door upon activation of a fire alarm or in the event of a power failure.

This will ensure the doors will still function as designed in the event of a fire, to minimise the spread of flames and smoke. The added advantage of these solutions for hospital buildings is that it aids the free movement of beds and wheelchairs, especially through corridors.

Access control

In healthcare environments, securing certain areas of the building is essential to ensure the safety of staff and patients and prevent unauthorised access to sensitive areas. In certain facilities, such as those that offer mental health or dementia care, a level of access control may have to be maintained for the entire building.

Traditional cylinder locks or coded keypads are commonly used as simple methods of preventing unauthorised access. However, the physical contact required to

Despite the advantages of automatic doors, there will be places within a building where it is not possible or even desirable to adopt this method

use these locks can allow germs to spread if not maintained properly.

To improve hygiene, digital equivalents that support contactless access can be specified instead of conventional locks, and keypads can be exchanged for card readers. There are a range of options to suit all types of doors and locks as well as a variety of radio-frequency identification (RFID) access media. There are also products that feature Bluetooth low energy (BLE) capabilities to enable smartphones to function as access media devices.

These digital systems have additional advantages in terms of convenience and control for the client and facility. The individual readers can often be integrated into a single system to provide greater control of access rights, which can often be managed remotely. It also offers the ability to maintain a detailed log of access to key areas. Additionally, these access controls can be easily integrated with automatic door systems to minimise the physical contact required.

Finally, for facilities that operate a time and attendance (T&A) system for logging and managing the presence of staff, traditional touch-operated interfaces can be replaced with one that offers a higher level of hygiene. The same RFID and BLE contact free technologies are also available for this application to further minimise the risk of germs and bacteria spreading.

In specifying door and access control solutions for healthcare buildings, the access and security considerations must also be balanced with the need to make the environment as hygienic as possible. By choosing the correct, high quality systems, architects can ensure that these aims are achieved. Engaging with a specialist supplier that can provide a single point of contact to identify, evaluate and provide the most appropriate entrance systems and access solutions will help ensure the best possible advice and guidance is received.

Tim Checketts is head of specification at dormakaba

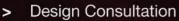
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The Fantastic Four Finishes from UNILIN

UNILIN Panels, has introduced four brand-new MDF panels with a coloured core. Without the need to apply a surface finish, UNILIN's new coloured-in core Fibralux MDF panels make it even faster and easier to lift interiors out of the ordinary. With transparent lacquer coated faces, the boards can be used in a wide range of applications such as furniture, wall coverings and retail displays. The concept has been proven with Fibralux MR Black Super Matt, introduced at the end of 2019. The black MDF with a super matt, scratch and fingerprint-resistant soft touch effect delivers a unique aesthetic. Now UNILIN Panels has introduced four further finishes to highlight the natural origins of the MDF construction. Fibralux MR Black High Gloss delivers a surprising mirror effect, Fibralux MR Black Satin has a subtle silk finish and Fibralux MR Grey Super Matt comes in two tones, light Meteor Grey and dark Mercury Grey.

info.panels@unilin.com unilinpanels.com/superboards/fantastic-four

New from VEXBOX, Uexplate helps suppress the spread of fire. EN1364/1 BS EN ISO 10140-2:2010 ISO 717-1:2013 www.vexbox.com

The Supreme loft ladder



The 'Supreme' from Premier Loft Ladders sets the standard for loft ladders, combining heavy-duty performance with light-weight operation. It features a high-strength retractable ladder, suitable for ceilings as high as 4.6 m. Furthermore, it offers superb thermal insulation and an

airtight seal, therefore helping to maintain warmth in the home and reduce energy costs. The sophisticated counter-balance system makes using the Supreme very easy. However, it is also available with fully-automatic electrical operation for ultimate convenience.

0345 9000 195 www.premierloftladders.co.uk/supreme

Pyroguard accelerates expansion



Pyroguard, a leading independent provider of fire safety glass, has accelerated its international expansion programme, with the appointment of Kevin Frisone as the new Sales Director for North America in the latest series of investments. Pyroguard has invested strongly in

international markets in recent years, as part of a rapid international expansion programme which has delivered significant revenue growth. Kevin will be responsible for promoting Pyroguard's fire safety glass solutions in the US and Canadian markets, creating strong customer relationships and working closely with local testing laboratories.

01942 710 720 www.pyroguard.eu



Discover the benefits from Advanced

Advanced's latest line of EasySafe low-voltage, LED emergency luminaires and exit signs offers higher performance and greater energy efficiency benefits than ever before. All EasySafe products are designed to work with LuxIntelligent, Advanced's emergency light testing system. Powered directly from the LuxIntelligent panel, Advanced's EasySafe devices require no local power supply. All devices are compatible with any existing LuxIntelligent luminaires and exit signs, enabling the easy installation of devices onto existing wiring to form a single, comprehensive intelligent emergency lighting system. The low-voltage lights offer quick and easy fitting and service, with a simple 'twist and click' installation onto a first-fix base. EasySafe has been designed to offer true scalability, with just one LuxIntelligent panel supporting up to 200 EasySafe devices alongside an additional 796 locally-powered devices.

0345 894 7000 www.advancedco.com

Axis EN installation protects Ho Chi Minh City's latest upscale apartment complex

n intelligent network of 20 Axis EN fire panels from fire and life safety systems manufacturer, Advanced, has been installed at HaDo Centrosa Garden in the heart of Ho Chi Minh City, Vietnam.

HaDo Centrosa Garden is a 70,000 m² development of eight 30-storey luxury residential towers and 115 townhouses located in the heart of Vietnam's Ho Chi Minh City. The upscale condominium complex's facilities will include a swimming pool, tennis and basketball courts, fitness centre, rooftop gardens, a park, school, library and commercial centre.

A key requirement for this large-scale complex was a system with high-speed networking capabilities to enable instantaneous sharing of communications between panels. To meet this need, fire protection companies Vietsafe and KP Technology chose 20 Advanced Axis EN fire alarm control panels, alongside 3,000 addressable devices, for installation in the



eight residential towers.

With many successful installations of Advanced products undertaken by both companies, Vietsafe and KP Technology were confident in Axis EN's ability to deliver the seamless networking needed, while its ease of installation, testing, commissioning and operation would ensure minimal issues once the panels were on site.

Mr. Le Manh Dung, Director of Vietsafe, said: "An Axis EN fire system was the clear choice for a project of this nature. Advanced is well respected in the fire industry, and its solutions are straightforward in terms of installation and operation thanks to features such as built-in isolators for sequence addressing which considerably reduces installation time."

Axis EN is EN54 parts 2, 4 and 13 approved and its panels can be used in single-loop, single-panel format or easily configured into high-speed, multi-loop networks of up to 200 nodes covering huge areas. Advanced's reputation for ease of installation and configuration as well as its wide peripheral range make its products customisable to almost any application.

0345 894 7000 www.advancedco.com



Advanced access control manages onsite security at MediaCityUK

ediaCityUK, an international hub for technology, innovation and creativity located at Salford Quays is home to companies such as the BBC, ITV, Ericsson, dock10 and Kellogg's. These are complemented by more than 250 smaller media and digital businesses, all using advanced contactless access technology from SALTO to provide site wide security.

Developed as a joint venture between Peel Land and Property Group (Peel L&P) and Legal and General Capital, MediaCityUK was designed around the specific needs of the media and creative industries, and the bespoke community features one of the biggest HD studio complexes in Europe; commercial offices; apartments; retail units, two hotels and a spectacular waterfront public piazza.

Peel L&P own and manage 12 million sq ft of property and 20,000 acres of land and water, with holdings mainly concentrated in the north west of England, but they also own and manage significant assets throughout the UK with a total portfolio value of £2.6 billion.

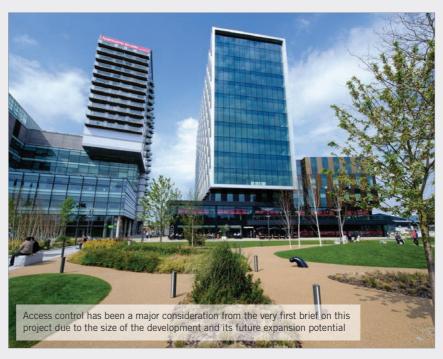
SALTO spoke with Head of Security Tony Chebrika and consultant Richard Sumner of RS Security Consultants who has been working with Peel L&P since 2015, to get a feel for how their access control solution is used to manage this diverse site.

What types of door are you controlling – internal or a mix of internal and external?

Tony: "It's a mix of both types. We're using SALTO readers to control road blockers, gates and barriers, wall readers to control main entry doors and mostly XS4 handle sets to control internal doors.

Other onsite users such as SIS (Sports Information Services) have their own individual SALTO solution but also have access to MediaCityUK doors i.e. they carry access permissions on one card for two systems. This is the same for ITV who also run their own system.

All doors, whatever their location, are mainly accessed via contactless cards but we're also using SALTO's JustIN Mobile with Bluetooth Low Energy (BLE). This enables a smart phone to be used as the access



credential for the electronic lock on the door. The mobile key is sent 'Over the Air' (OTA) to a JustIN Mobile app installed on a registered and verified smart phone. The user receives a message that they have a new key and for which doors they have access rights. They can then present their smart phone to the lock to gain access via the JustIN Mobile app."

You've recently designed a new security system – what did this involve?

Richard: "Yes, the existing solution was all proprietary making it difficult to operate, what it needed was a unified security system and a unified control room. So having tendered for the work I began working with Tony and his team. Based on an operational requirement and an evaluation of the product sets in the market place, Tony and I selected product sets that would not only meet our requirements today but considered a road map that would enable the systems to grow as developments came on board.

We selected SALTO as the access control solution plus IP Video Management Software

firm Meyertech, Wavestore, AXIS cameras, 2n Intercoms and Siklu Wirelss links. It was my task to procure and manage the new security upgrade which would include new cabling, software and IP cameras site wide tied into a new state-of-the-art control room.

The goal of the upgrade was to implement event driven alarms and recordings. This would operate through a single user interface, which would enable control of all existing standalone systems across multiple sites so the new control room could see at a glance how and when people moved around all the different buildings.

SALTO was integrated with Meyertech and the wireless handle equipped doors - which operators can remotely lock and unlock - as part of the project as this was a first for both parties and the end results are fantastic with a solution that meets the end users requirements on driving alarms and isolation of doors through a single front end GUI.

This means when a door is accessed, the camera is activated to provide a visual recording which can be used alongside audit trail data from the door itself. Another useful feature is that when a door alarm goes off, for

instance in the case of a door being left open or forced, the camera system can display footage from 5 seconds before and 5 seconds after the event – making it possible to identify the culprit and then begin tracking them through the rest of the system."

Did sustainability and environmental considerations play a part in the decision making?

Tony: "Yes our legacy matters so we take great pride in the way we go about our business and look to develop a long-term, sustainable future. In fact Peel L&P has recently been awarded a silver medal for its sustainability achievements placing it in the top 10 per cent of participating global companies specifically for its environmental performance.

This cuts across to our suppliers too. It's important for us to ensure that the companies we work with share our values and SALTO, like us, takes its environmental responsibilities seriously. Their factory headquarters has achieved the feat of going entirely carbon neutral, the electricity used in manufacturing their products is generated by on-site solar panels or purchased as certified green electricity and they lead the way in the delivery of sustainable access control solutions by providing customers such as ourselves with smart lock products that reflect our own environmental values."

Is support for your access system provided by the company, by an approved partner or do you self support with your own trained staff?

Tony: "We took a great deal of care when evaluating and selecting our access control system so what we have is reliable and any issues are minor and few and far between. When it comes to technical support, routine maintenance, troubleshooting and so on, we self support with trained MediaCityUK staff but can call on additional support from SALTO as the manufacturers as and when we need to do so."

Is there more development still to come at Media CityUK?

Tony: "Yes, MediaCityUK is one of the fastest growing communities in the UK, and we are committed to ensuring it remains a safe and secure destination where everyone is welcome. MediaCityUK is a continually developing site and as new buildings and facilities are added further electronic locks and other security measures will be installed to control access to them. Our community of



workers and residents have been made aware of the new security improvements outlined above and they have been suitably impressed by the upgraded systems now in place.

Tell us about the awards that have been won for work on this project?

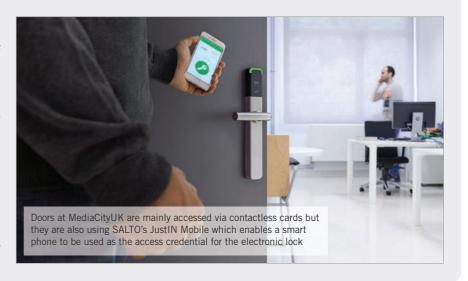
Tony: "Richard's long-term work with me as Head of Security Peel Land & Property, Peel Retail Parks and MediaCityUK has been recognised on a couple of occasions. At the Association of Security Consultants 2020 awards he was presented with the Mike Cahalane Award which is presented annually to an independent security consultant for consultancy work and to highlight and recognise the positive difference independent security consultants can make in the public and private sector. And this year, at the first-ever virtual UK Outstanding Security

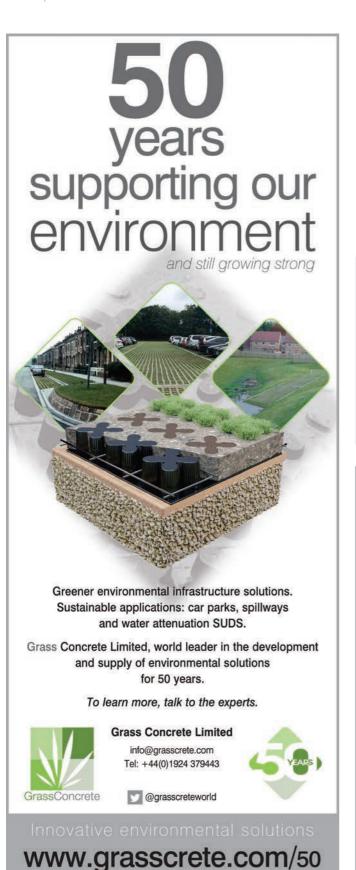
Performance Awards (OSPAs) he won the Outstanding Security Consultant award.

Finally, can you summarise what access control provides for MediaCityUK?

Richard: "Access control has been a major consideration from the very first brief on this project due to the size of the development and its future expansion potential. A smart 'keyless' environment was always a prerequisite to control access and it gives Tony full control over his security requirements. To date the SALTO solution has worked well and provides effective, secure, simple to manage access control in multiple buildings across the site."

01926 811979 www.saltosystems.com/en-gb





Game, Set and Match for Resiblock!



Resiblock, and the Resiblock Resiecco product, have been selected as the sealer of choice for The Gate 20 renovations as part of the Wimbledon Master Plan at SW19. The Gate 20 project will see the relocation of the two storey media tower and the creation of a new Technical Services Room. All associated paving within the project is set to be sealed

and stabilised with Resiblock Resiecco. Resiblock is no stranger at The All England Lawn Tennis and Croquet Club, having successfully sealed the entirety of the paving at Wimbledon back in 2011.

mail@resiblock.com

Polypipe welcomes New Environment Bill



On 11 May 2021 it was announced that new legal duties on water companies and the government will be included in the Environment Bill to reduce sewage discharged into waterways. Sean Robinson, specification director at Polypipe Civils &

Green Urbanisation, said: "Thanks to breakthrough stormwater attenuation and re-use technologies, we are now armed with a new generation of sustainable drainage solutions that can significantly reduce, or even eliminate, the volume of stormwater entering the combined sewerage network, reducing the risk of sewage discharge.

www.polypipe.com/civils





Rethinking rainwater harvesting for SuDS

Mark Manning of SDS discusses rainwater reuse in the context of SuDS regulations, and says that architects could be mistakenly rejecting such approaches as an important option for sustainable drainage

henever an architect receives a design commission that includes sustainable drainage, their creative thoughts are likely to turn first to appealing blue/green infrastructure. But could a rainwater harvesting system be justified as part of the Sustainable Drainage System (SuDS)?

Even where there is limited space for above-ground SuDS ponds or swales, the opportunity for reuse is often missed. Why? Because our minds are set to view rainwater as a waste product to be discarded and quickly conveyed away. If someone throws paper, glass or recyclable plastic bottles onto the ground, we are enraged. Yet, all too often, we plan to let a valuable resource slip through our fingers.

Excess stormwater has become a nationwide waste problem; it causes flooding and sewage overflow pollution as it flows away into the overburdened drainage network and into our rivers.

SuDS design guidance

Most architects know there is a design hierarchy to follow when selecting and specifying SuDS components. However, many guidance documents produced by Local Authorities and Water Companies either don't include, or quickly demote, rainwater reuse. Instead, infiltration is frequently top of the list of methods to select from.

In England, the Non-Statutory Technical Standards (NSTs) for designing

ADF JUNE 2021 WWW.ARCHITECTSDATAFILE.CO.UK



Excess stormwater has become a nationwide waste problem; it causes flooding and sewage overflow pollution as it flows away into the overburdened drainage network and into our rivers



SuDS on new developments currently make no mention of water saving, nor does the corresponding Planning Practice Guidance. Yet, the UK's 'design bible', CIRIA C753 The SuDS Manual, actually mentions rainwater harvesting 105 times. Using surface water as a resource is listed as the number one design criteria and the document makes it clear that reusing water should be a priority consideration over other drainage methods.

The London Plan follows the Manual's best-practice approach – a policy which is leading to significantly more commercial and residential water reuse schemes. In Wales, the Statutory National Standards for Sustainable Drainage Systems also set out as a first priority that surface water runoff is collected for reuse.

Why should architects and their clients go the extra mile to design water reuse into sustainable buildings? Scientists have shown that global warming is leading to more extreme weather conditions, with longer dry periods interspersed with intense, heavy rainfall. On the one hand, parts of England are predicted to run out of water in as little as 20 years without concerted water efficiency improvements. On the other, around 5.2 million properties in England, one in six, are still at risk of flooding.

Rainwater reuse and flood control are just two sides of the same water management coin. Harvesting rainwater from roofs for toilet flushing or irrigation not only makes water-saving sense, it holds back (attenuates) floor water like other forms of drainage. Planned on a national scale, implementing property-level water reuse solutions would significantly reduce the predicted shortfall in demand for mains water, while also providing muchneeded flood risk protection.

So why haven't rainwater reuse systems become more mainstream? The required regulatory and policy frameworks have been missing, especially for residential developments, since the withdrawal of the Code for Sustainable Homes in 2015.

Smart, dual-purpose rainwater systems

The picture is brighter in the commercial sector, where the promise of top BREEAM ratings, together with planning conditions that impose demanding per-person water use limits, have resulted in some outstanding schemes, especially in London. SDS has pioneered the use of digitally-controlled rainwater management for some of them with its Intellistorm water reuse system, for example, at the prestigious Southbank Place development in London.

The system principle removes another historic barrier to rainwater reuse – the consideration of what happens to the excess water when the rainwater collection tank is full. In the past, most conventional designs have required a second tank to avoid flooding and meet discharge consents.

Dual-purpose rainwater management schemes use weather prediction data to control the overall levels of rainwater for both attenuation and reuse in a single storage area. When a storm is predicted, the water level can be lowered automatically to create sufficient capacity to accept rainwater and avoid surface water flooding. Water collected from the roofs of one or more buildings can be stored in intelligent tanks, and the resulting attenuation managed at the building level, or engineered over a defined catchment. SDS is currently conducting a trial to intelligently control the levels of smart water butts collecting rain from the roofs of 30 residential properties so that attenuation and surface water discharge can be managed across a catchment.

So, next time you get a brief for a sustainable building, why not consider a smart rainwater management system?

Mark Manning is national specifications manager at SDS



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- Enhances resilience to flooding, drought and population expansion



A new approach to surface water management

Expectations of the built environment are changing to meet sustainability targets and corporate social responsibility values.

Following ten years of research and development by Rockwool, Hydrorock Solutions has launched a new, innovative, sustainable drainage system consisting of Natural Aquifer Blocks in the UK. Effectively managing excess surface water to prevent flooding and drought, Natural Aquifer Blocks are made from natural stone wool, providing an enhanced, alternative natural water management system to burying plastics underground.

In a recent project undertaken by South Tyneside Council, Helen Langton, Senior Engineer from Lynas Engineers, quoted that "the Hydrorock system was specified to meet the sustainability, environmental and performance criteria whilst overcoming a challenging site installation". Similarly, Surrey County Council recently installed this new system, providing a plastic-free, no maintenance highway drainage solution.

The Hydrorock system stops large volumes of water collecting in a single place, moving, storing and releasing water by infiltration, attenuation and irrigation. An increased surface area is achieved due to the system's modularity, and the capillary action allowing infiltration through the base providing an enhanced performance.

As a true holistic SuDS solution, Natural Aquifer Blocks relieve the additional load on nearby sewers and other existing infrastructure, improving soil water balance and integrity by keeping water within the confines of the site. This extremely flexible and adaptable modular system unlocks the potential to build on the most challenging of sites.

Some of the many benefits of the Hydrorock system include a simple installation process, adaptability to any location and no maintenance. Following the sustainable ethos, the Natural Aquifer Blocks continue to be green beyond their lifetime; the used blocks can be recycled into Rockwool insulation material.



With Hydrorock Solutions set to change the way we manage surface water in the UK, Architects are embracing this new sustainable way of thinking.

For more technical information, contact Hydrorock Solutions.

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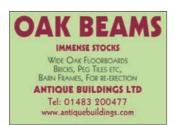
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