

Products in Practice

Mar/Apr 2024

Extreme spec

Lightweight 3D printed concrete bridge

Cladding

Bleeding Heart Yard, London

Special report

Stage is set for evolving film studio demands

Doors, windows & ironmongery

Rhodes House, Oxford

Interiors

Twilight House, Birmingham



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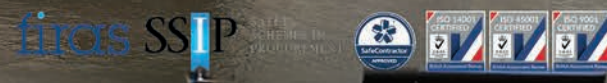
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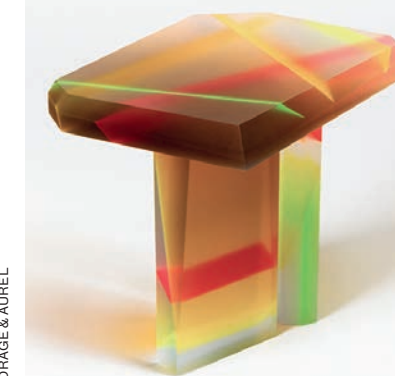
More online...

'The Netherlands has targets for public buildings and Amsterdam has a target for one in five homes to be made of timber'

How the UK can learn from Europe to raise the use of timber in construction: ribaj.com/timber-in-construction

↓ PiP's on Pinterest!

Lake Como designer Draga & Aurel was inspired by South Korean artist Jiyong Lee's 3D colour studies for its occasional tables, Flare. Coloured Lucite acrylic sheets in different shapes and thicknesses brought together create almost psychedelic hues and arrangements. The collection is exclusive to New York gallery Todd Merrill Studio. toddmerrillstudio.com



DRAGA & AUREL

Cover image: Bleeding Heart Yard, London, facade detail. Photograph by Tim Soar

ribaj.com

The Eye of PiP



Hosted by ASCER, the Spanish Ceramic Tile Manufacturers' Association, the 22nd Tile of Spain Awards late last year named the winner Ripoll-Tizón Architects' House in Puntiró (Mallorca) for the way it combines tiles and a few simple, functional materials into a seamless whole. PiP was taken too by 'Plaza + bus stop in Vinarós' by La Errería architecture office, which shows what great public space can look like, especially in the sun! Full awards are at premiosceramica.com

PiP editor **Jan-Carlos Kucharek**



MILENA VILLALBA

↓ Seen/Green: If you didn't know what 'descortidores' are, you do now. They're cork tree harvesters, whose skills maintain the long-term health and vitality of the tree, allowing it regenerate after being denuded of its outer layers. Flooring firm Recork, whose factory sits in Portugal's Montado cork forests, takes the bark off their hands, granulating and agglomerating it into high density planks using heat, pressure and a binder. Using sustainable raw materials and environmentally friendly production processes, says the PR, each square metre of Recork's Una flooring removes up to 193kg of CO₂ from the atmosphere in its lifetime. Float that idea to your client!



06 ↓ 'How are you?' became a statement of love and care
Ukrainian industrial designer Andriy Khvorostyanov on the naming of his lamp



SERHII SAVCHENKO



DION BARRETT/STUDIO507WO

34↑ 'A kind of inside outside space... inspired by that Tom Ford aesthetic and a filmic quality of perceiving nature as you move through'

26 ↓ Glazing over the lightwells improved the building's form factor and overall performance



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U-value chart

Depth of insulation required

U-value req. W/m²K	Quantum® (mm)	Extruded (mm)	Expanded (mm)
0.15	60	220	235
0.14	70	230	255
0.13	70	250	275
0.12	75	270	295
0.11	80	290	320
0.10	100	320	355

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Sample range of U-values based upon a typical roof terrace construction with a 200mm concrete substrate and product Lambda value as noted.



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Bracken House, FT Building, London.

Due to the proximity to St. Paul's Cathedral, there was limited height available for insulation on this extensive refurbishment. To meet the required 0.18W/m²K U-value within the existing 75mm insulation zone, ProTherm Quantum PLUS+ Hybrid was used with ProTherm Quantum PLUS+ Pure over the existing concrete plinths.

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Compendium

Into the night...
There's 'something of the night' to German luxury lighting brand Occhio's new Sito palo light – not least that it's an exterior bollard luminaire for paths and terraces. That image of the all-seeing eyeball looking down on the earth has us thinking of the opening section of HG Wells' classic 'War of the Worlds,' where things look quite dark for humanity at the outset. The thinking's compounded by the fact that Sito palo's 'internal lenses provide optimal light distribution and the head can swivel 45°' – unlike Wells' aliens 'the perfect companion as you approach your door'.



The New Stone Age
PiP has yet to experience dipping its toes in either of Glastonbury's ancient subterranean springs – the Red, Chalice Well or more famous White spring in the hill beneath its famous Tor – but it's on its, ahem... bucket list. As is another ground-sourced product spotted from Milan-based product designer Henge, which has hewn out its own, new 'Crystal Evo' pendant light, formed of a warm 2700K LED light between two sheets of thin White Crystal suspended by delicate straps of cowhide leather. The PR says it exhibits 'alchemies of light and translucencies of arabesque textures;' a shoo-in 'niche product' for the town's gamut of new age healing shops.



...and dream of sheep
Sleep: something Ukrainians, wherever they are, might be getting very little of – but good to see how anxiety, among designers, might channel to productive ends. Ukrainian designer NOOM – industrial designer Kateryna Sokolova with designer/entrepreneur Arkadii Vartanov – has won an Archiproducts Design Award for its sheep-inspired Flock Collection lounge chairs and ottomans. Latest to the count is its new chair with wool-upholstered wooden legs, a spot-on detail whose ovine quality has got us bleating for more!

(Everything I do) I Duo it for Oyo
PiP's clearly late to the party on this one but it seems Canadian rockstar Bryan Adams is also a successful photographer. Germany being a little partial to rock generally, it's no surprise then that sanitaryware firm Kaldewei should commission him for its Meisterstück Oyo Duo luxury bath campaign. This is the third one he's done for its 'trilogy' of washing, showering and now bathing. Not sure if the models were listening to one of his belters during the shoot in that large studio, but we'll totally understand if they didn't give him a standing ovation.



Smart AND Zwart
It's the classic architect domestic extension kitchen hack: buy IKEA cabinets, then design bespoke doors and worktops to create a high-end look. Furniture makers Dave Young and Ross Norgate twigged it when they set up Bristol-based HUSK in 2018, 'making beautiful kitchens accessible to all' by doing just that – offering lovely doors and tops you just put on basic units. But their latest collaboration with Paul de Zwart's Another Country really ups the ante, producing a classy range of cabinet doors in natural ash veneer or five hand painted colours and with timber or Dekton stone worktops, that look a million dollars but don't cost the earth. All FSC certified and sustainably sourced – it's a win-win!



See green
Australian architect BVN has been busy at Coffs Harbour on the coast north of Sydney, renovating the city's library, museum and gallery and council office to give it more seafront sex appeal. To create the facade, it looked to Spanish ceramics firm Cerámica Mayor, whose Tempio glazed extruded ceramic ventilated facade panels in Green Aberdeen not only give it a distinctive, almost deco look, but are highly resistant to more challenging coastal conditions. The renovation will see the facility better placed to serve both locals and tourists visiting the picturesque town.



Lest we forget
It's been two years since the Russian invasion of Ukraine, with the tragic death and displacement that it precipitated, particularly on the eastern side of the country. Former Kharkiv resident and industrial designer Andriy Khvorostyanov seems to be reflecting on the cold new realities of life while considering light that might shine in the darkness. 'How are you?' became a statement of love and care that resonated for him, and its acronym is the title of his tall 'HAY' floor lamp for Kyiv-based Panoptikum Collections. Khvorostyanov's 'mirror-torcher' is intricately hand-woven in aluminium wire with an embedded mirror at its top hiding an LED lamp hidden deep within the metal body. Warmth emanating from coldness as a consolation is one we might all reflect on in dark times.



Holly water
It might have been the haunt of the original A-list celebs – Roman emperors – but the draw of Lake Como has continued into modern times, with its stunning coastline populated by the likes of Hollywood's George Clooney, Sylvester Stallone and Madonna. And with all those amazing lakeside views, it seemed a no-brainer that architect Brook Canal would take best advantage of it with its extreme makeover of Villa Girasole, a 1960s lakeside home. Installing Sky-Frame's 'Classic' glazing system to the terraces ensured that the lucky new owners could take in the jaw dropping Balbianello peninsular panorama.

Knowledge pool can widen architects' horizons

Huge, anonymised Cloud-based datasets could transform not just architecture but the role of architects, heard Jan-Carlos Kucharek at the Autodesk University annual conference



AUTODESK

The big takeaway from the annual conference of Autodesk University (AU), producer of software products and services for architecture, engineering and construction (AEC) and other sectors, is not that AI is the future, it's that it's already here and changing the world. It announced this in style at the event at the Venetian Resort in Las Vegas last November, where 12,000 people filled two giant halls, as live DJs blasted pumping out house music over lasers and strobe lights. Waiting for Autodesk CEO Andrew Anagnost to open the event, there might have been a nightclub vibe but there's no doubting the serious business – and money – at play. Coming together to discover the latest innovations by AEC firms showcasing Autodesk's digital tools to work better and more efficiently, the firm itself, with a revenue of \$5bn in 2023, is a bellwether of the global worth of this sector.

Anagnost spent little time talking about the BIM products that architects most associate the firm with, Revit and

Above No nightclub but AU's opening to start its three day event with 12,000 delegates, 200 exhibitor expo and 600 seminar sessions. **Below right** Autodesk's Workshop XR, launched at the event is the latest in a set of increasingly powerful collaborative tools.

AutoCAD, because these platforms are absorbed into something potentially far more powerful now everything is in Autodesk's Construction Cloud (ACC). The latest iteration of this, announced Anagnost, is the addition of Autodesk Forma cloud-based software which – with the power of collective datasets in the ACC, its own parametric tools and predictive analytics – allows teams to interrogate building requirements and site conditions quickly. Generating multiple options, it means that the optimum design solution can be arrived at during early stages.

'Twenty years ago, no-one really cared what went into a building or how it was built – but now it's being scrutinised across its whole lifecycle,' Anagnost explained. 'External factors, regulatory

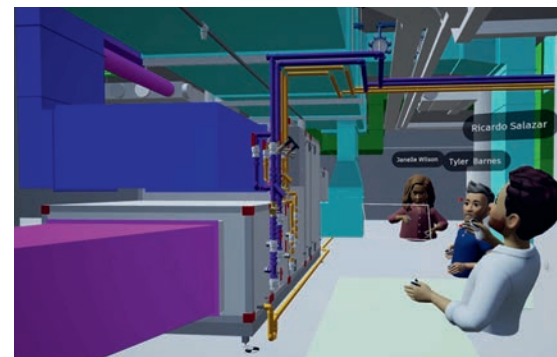
and economic, are changing the way things are designed. We're seeing new technologies coming in to serve that; we've been predicting the convergence of manufacture and construction for a long time.' To prove his point, Paul McNulty of US firm MBH Architects took to the stage to go through Project Phoenix in West Oakland, California, a 300-unit development that uses modular techniques to build efficiently and sustainably. McNulty emphasised the ability of Forma's generative tools to help MBH optimise the design; not only form-finding to make best use of its sunlight, sound and wind constraints but helping develop a mycelium cladding panel that made the project carbon neutral.

Deep thought

With all this potential for design teams, there's an obvious trade-off. As everything goes into the ACC, it is amassing enormous amounts of project data, albeit anonymised, from which it generates and refines its algorithms. Your scheme's info is, in effect, serving the greater purpose of feeding a 'deep thought' AI project dataset, one which constantly learns and evolves, ideally creating a virtuous feedback loop that will optimise, for instance, density, structure, daylight factor, sustainability or cost for all users. Anagnost answered concerns about this 'data sharing' aspect at the event. 'Our intent isn't to train models taking a firm's intellectual property and exposing it to the world, it's to train models allowing people to build 3D representations of their ideas faster – which helps everyone. We're training up on datasets that represent a broad set of criteria of how a model is assembled, not how any particular system has been resolved,' he emphasised at the media call.

Revolutionising working

The huge seminar programme, with presentations for all types and sizes of firms, seemed to bear that argument out. We heard how Revit's BIM capabilities and digital collaborative tools were helping with programme and logistics to complete Notre Dame cathedral in Paris by its set-in-stone deadline this April. And from Jens Majdal Kaarsholm, director of design technology at BIG which has been customising its Revit Ribbon to homogenise drawing standards across the office. Nordic Office for Architecture partner Knut Ramstad gave a fascinating whistlestop tour of Revit-compatible apps and plug-ins like Evolve Labs Veras, OpenSpace RealityCapture, Chaos Enscape and Corona, that help Nordic generate schemes and renders quickly for internal and client review. Cloud-based working is 'revolutionary' for architects, said Ramstad, by letting them choose who partner with. The firm operated in a virtual workspace on Noida International Airport project in India, designed over the Covid pandemic, not only with Haptic Architects and Grimshaw in London but with PMs and contractors on site. Developments in this realm were born out by the launch of Autodesk Workshop XR, a virtual collaborative ACC space, that has 'consultant' avatars reviewing work and tracking issues in their own designs. Since Forma's release last year, Nordic has been testing its capabilities to optimise the form designs according to weather data, structural and embodied carbon minimisation. 'It's important to use tools that can test these parameters [so we can] quickly look at options and make informed choices, as at our Keflavik Airport project in Iceland,' says Ramstad. Unlocking this problem inspired Autodesk's Carl Christensen to co-found Norwegian startup Spacemaker AI in 2016, which sold to Autodesk in 2020



AUTODESK



JAN-CARLOS KUCHAREK

Above Modular unit from MBH Architects' Project Phoenix in West Oakland, CA. Stage I of the low-cost housing uses specially formed mycelium/ hemp 'Myocomposite' cladding by US firm Ecovative.

for \$240 million, as the basis of Forma. 'We empower architects to tell stronger, more credible design stories in a way that's understandable to stakeholders or clients,' he says. 'Forma makes it easier to analyse buildability, sustainability, carbon use and costs to quickly create options, interrogate and visualise them.'

Creative liberation

Doesn't the feedback loop of user data in the Cloud's huge dataset create algorithms favouring generic outcomes and stifling innovation? Christensen says no, it's the opposite; he wants architects to be 'liberated from banal but necessary processes and concentrate on improving the design by looking at myriad options'. Cloud-based datasets are applied in unique situations: 'We're not converging on one way of doing things. There are different sites, stakeholders and needs which we optimise so it's easier for architects to handle the predictable aspects and they can discuss compromises intelligently. With Forma I'd like to think you spend more time on the 'soft' qualities of design, knowing the 'hard' ones have been addressed.'

As with the introduction of AI in any sector, there are fears it will have a negative impact on jobs, but Christensen thinks that 'the idea that there's no need for expertise is a fallacy – people's time is spent more creatively and in a more value-driven way.' This understandably

aligns with Anagnost's view that the AEC sector is moving from its traditional role into a new one. Creating detailed data-rich digital twins of buildings means architects become 'gatekeepers' – ongoing consultees in operations and maintenance for clients after the building is finished.

Essential change

Making architects reappraise their role might even change client perceptions of them. In a lecture at the end of the AU event, Marcos Aguado Sánchez, project leader at Spain's largest retailer El Corte Inglés, discussed the accelerated, expensive and challenging journey by the €16bn revenue, family-owned firm to create an up-to-date digital twin of its 11 million m², predominantly city-centre, real estate. Modelical, a built environment strategy, technology and design consultant is helping it realise this. The eventual model will not just deal with physical assets but be granular enough to help decision-making in retail logistics, operations, even carbon saving – the retail giant is a significant electricity user. 'The cost of the model is about €2/m² – peanuts when you look at the uplift in value of the real estate as a result of it,' says Modelical architect and MD Roberto Molinos. 'Until now the firm has relied on gut instinct but is learning that it needs to be more qualitative and data driven, to work in new ways, be more attractive to talent and so be seen as more valuable.'

So it's about more than the model: 'It's about changing the company's DNA.' ● **RIBA** was a guest at Autodesk's AU conference in Las Vegas on 12-15 November 2023

Corn on the cob makes climate-friendly tiling



A massive stockpile of discarded sweetcorn cores combined with a low-energy production process is being used to make a climate-positive range of interior cladding, reports Stephen Cousins

Sweetcorn is one of the most common agricultural crops on the planet, yet the cores of cobs are typically burnt as biomass, fermented, or simply left on the field to rot.

Seeing the potential for this vast untapped waste stream, Low Countries manufacturers StoneCycling and Circular Matters decided to exploit it as a key ingredient in a new sustainable range of interior cladding.

CornWall tiles and sheets are intended as a bio-based alternative to vertical ceramic interior wall tiles or plastic laminate. According to the manufacturer, the product is climate-positive, storing more CO₂ than is emitted during production, is biodegradable, has no end-of-life waste, and is 100% recyclable. An Environmental Product Declaration is being developed for publication before the summer.

Everyone likes a bit of butter on their sweetcorn, but CornWall's 'secret sauce' is an innovative low-energy production process developed by Circular Matters, a start-up spun out from Belgium's KU Leuven University, to enhance the natural biopolymers leading to more durable materials.

Cobs are first dried and shredded into biomass, then mixed with other agricultural waste, binders and pigments, the latter being the only non bio-based ingredient making up just 0.5% of the product. The material is then pressed into a plate material at a relatively low heat of 120-150 degrees, with the heat and pressure activating the biopolymers to bind them together. Tiles are finally given a thin bio-coating for water resistance.

Carbon sequestered in the corn cobs is locked away in the tiles until they reach end of life and are left to decompose. Tiles are designed for use in retail, hospitality and offices and to avoid disposal as part of the regular fit-out cycle, they are not glued but attached to a demountable mechanical fixing system, which can be removed to enable 100% reuse of the material.

The product is moisture and dirt resistant and can be used for vertical wall cladding, panelling and backsplashes. However, unlike ceramic tiles, it cannot be used in wet areas, like showers, or horizontally on floors or table tops.

'We wanted to maintain the biodegradability of the product so we don't add chemicals that would make it applicable for flooring and wet areas,' said Ward Massa, co-founder of StoneCycling. 'Producing CornWall does not require scarce raw materials and hardly requires energy. In fact, it's made with 100% electrical power that comes from solar panels.'

CornWall is available in six colours and two sizes, developed in collaboration with Dutch design practice Studio Nina van Bart. 'Larger clients can develop custom colours and textures with us,' said Massa. 'The largest tile we have is 600 by 600 by 3mm. The product is also super light, saving CO₂ during transport.'

In replacing fossil-based plastics and resins and eliminating CO₂ from production, this is one eco product that really could help build a brighter future for the planet – as corny as that might sound. ●

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Discarded cores from sweetcorn cobs can be turned into a sustainable internal cladding that comes in a range of colours



STONECYCLING (2)



BLOCK RESEARCH GROUP/ETH (2)



INCREMENTAL 3D

3D printed Phoenix Bridge

What Lightweight concrete bridge
Where Lyon, France

Phoenix Bridge in Lyon, a collaboration with Zaha Hadid Architects and ETH Zurich, was unveiled at the end of last year at material solutions manufacturer Holcim's nearby R&D centre. A 3D printed concrete structure, it is a reinvention of the Striatum Bridge that the group designed for the 2021 Venice Architecture Biennale, but this pushes the technology further and significantly cuts its embodied carbon. This is all part of Holcim's aim to make 3D printed concrete commercially viable for the construction industry. The 'concrete ink' developed for this second iteration contains 40% less embodied CO₂ than the original, claiming to have a 25% lower overall carbon footprint than a comparable reinforced concrete structure.

The bridge relies on compression alone and requires no further steel reinforcement. Now made of 104 rather than 53 individual pieces, it is also far easier to handle, construct and dismantle – especially since ETH's Block Research Group has optimised a strategy of using standardised formwork, so bespoke elements can be reduced to a minimum.

'Stone doesn't want to be a beam, it wants to be an arch,' says Shajay Bhooshan, head of Computation and Design Group (CODE) at Zaha Hadid Architects. Together with Block Research Group, it's spent the last decade looking at applying digital design and engineering in masonry construction. 'A key aspect of masonry is its potential



Top The 104 hollow 3D printed concrete pieces of Phoenix work solely in compression so it is easily assembled and disassembled.

Top right ETH's Block Research Group optimised formwork use to maximise standardised elements.

Above The 'ink' composition has to balance water content and setting time.

for dry construction, which is why we have relied completely on compression here. This obviates the need for steel reinforcement, which makes it far easier to recycle – part of the circular objectives alongside reuse, reduce and repair.' 3D printing of the concrete also allows for material economy. 'The blocks' cross-section is mostly air; we are only using the material where we need it,' adds Bhooshan. The policy worked on the block fabrication too, he adds. 'Being smaller, each block had less curvature and so produced less "raft", the sacrificial material surrounding each piece as it's being printed.' To fabricate the individual blocks, ZHA worked with ETH and Holcim to develop a customised programming code.

But the innovation here is not just having used less, it's the nature of what was used – not least that Phoenix recycled 10t of material from its predecessor. The concrete ink was

specifically tailored too. 'As the bridge is shallower and lighter we could go from a compressive strength of 90MPa to 50MPa, and the higher the strength, the higher the carbon footprint,' explains Holcim head of global R&D, Edelio Bermejo. 'One third of the material in the new ink is recycled and we've used 100% recycled clinker to make 100% recycled cement.'

The ink recipe has been resolved, says Bermejo. Maximum aggregate size is determined by the ink nozzle and optimum sand/cement proportions have been established, along with the make-up of the accelerator used for setting. Critical is the viscosity of the ink, which depends on the variables of temperature and water content, he explains. 'When you lay the ink, the next layer will come in 2-3 minutes, so it must set fast enough for that but not so fast that it sets in the nozzle. There's a significant time difference to printing at 15°C or 25°C. Precision is key, so adjustments must be exact.'

So with all that necessary precision, can it ever be viable commercially? Bermejo thinks so – the firm is already printing 3D schools and housing in Malawi and Kenya with COBOD robots to prove the technology can be implemented anywhere, and is going through ETA certification to progress a housing project in France. 'The system and ink have been perfected; now it's just regulatory compliance demands and insurances that need to catch up with the technology,' he says. And, it seems, despite these humble beginnings, scale is no object. 'They built the great aqueducts and rail bridges with bricks,' notes Bhooshan. 'This could do that.' ● **Jan-Carlos Kucharek**

8 Bleeding Heart Yard, London

Amin Taha's Groupwork has thrown a light, nostalgic cloak over a central London building in a playful upgrade and extension

Words: Pamela Buxton Photographs: Tim Soar

Visitors arriving in London's Hatton Garden jewellery district could be forgiven for thinking the imposing terrace of buildings that draws the eye on the corner of Bleeding Heart Yard and Greville Street is historic. After all, this is a conservation area brimming with heritage – the evocatively-named Bleeding Heart Yard itself pops up in Charles Dickens's *Little Dorrit*.

But drawing nearer, attentive observers, when not dazzled by the sparklers in the nearby shop windows, may be intrigued to realise that the sturdy-seeming facade is in fact covered in an intriguing mesh. Not only that, something is afoot with the configuration of architectural elements, which on closer scrutiny appear to have slipped around in unexpected and unruly ways.

What is going on? This playful composition of new from old is the work of Amin Taha's Groupwork practice, which was commissioned by developer Seaforth Land to upgrade the 1970s office building on the historic site. The project extends and reworks the incumbent building to give it a new lease of life, thanks in no small part to an

over-cladding that drastically improves energy efficiency while reinventing its appearance. And the practice has had fun here too, says Taha, exploring nostalgia for the past with a twist of its own.

The 8 Bleeding Heart Yard project shows rather more sensitivity to its context than the site got in the late 1960s, the last time it was comprehensively tackled. Then, the developer demolished a terrace of eight buildings dating variously from the early 18th to early 20th century, replacing it with a five-storey corner building and consigning the famous rear yard to car-parking. Visually, the replacement building was fairly nondescript, with a horizontal



GROUPWORK

Right The 1970s building before its reinvention by Groupwork.

Far right The extended building has a new facade inspired by long-gone buildings on the site.



ribbon of windows and a blind brick facade at street level. Structurally it was sound – the concrete frame could support extra floors – but a big internal re-organisation was required after years of sub-divisions and accretions.

By the time Groupwork came on board two proposals to extend the building for a previous owner had come to nothing – permission to increase the building’s size in the conservation area clearly needed a compelling proposition. The practice’s instinct was to look to the past, commissioning heritage consultancy Donald Insall Associates to investigate what had existed previously on the historic site and its surroundings, and use this knowledge to inform the reinvention.

At the same time as this research into the site’s history, the practice was developing its own embodied carbon material methodology to determine what to keep and what to replace. It used the BS EN15978 standard for lifetime embodied carbon accounting and the Inventory of Carbon and Energy database, which gives the embodied carbon of over 200 materials. As a result Groupwork has retained most of the building, with the exception of its single glazed windows and accumulated plasterboard internal additions, while adding insulation and radically altering its external appearance. Internally, the removal of partitions and corridors has created open plan office accommodation. Meanwhile, the upwards (two storeys) and side extensions were created in a deeply insulated structure of glulam beams and CLT floors, walls and roof. The result transforms the building inside and out, doubling the original GIA of 3386m².

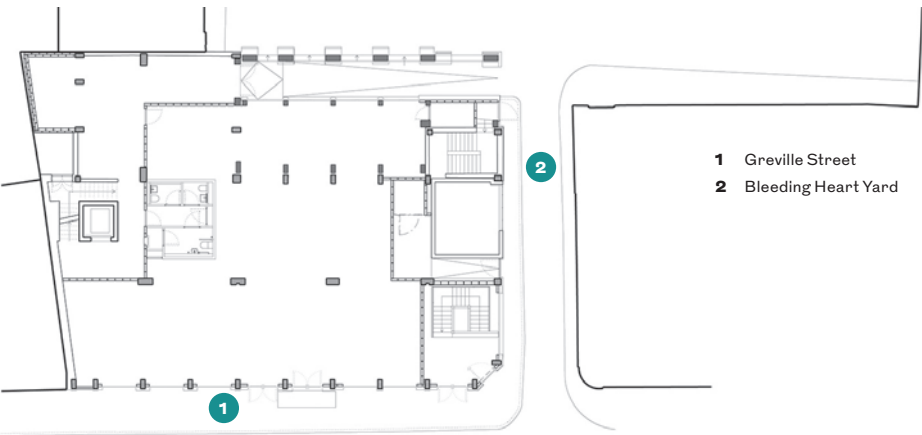
The practice first explored what Taha calls a ‘technically-oriented’ facade design with louvres to keep the sun out, before embracing a playful interpretation of the buildings that once occupied the site.

In doing so, Groupwork has drawn on both the heritage report and its long-established interest in using – and subverting – memory and nostalgia as an opportunity for architectural expression, a creative thread that dates back a couple of decades to an unrealised proposal for a residential building on Bayswater Road facing Hyde Park, conceived as a Belle Epoque-inspired palazzo. More recently, the practice completed 168 Upper Street, to deliver a creative interpretation cast

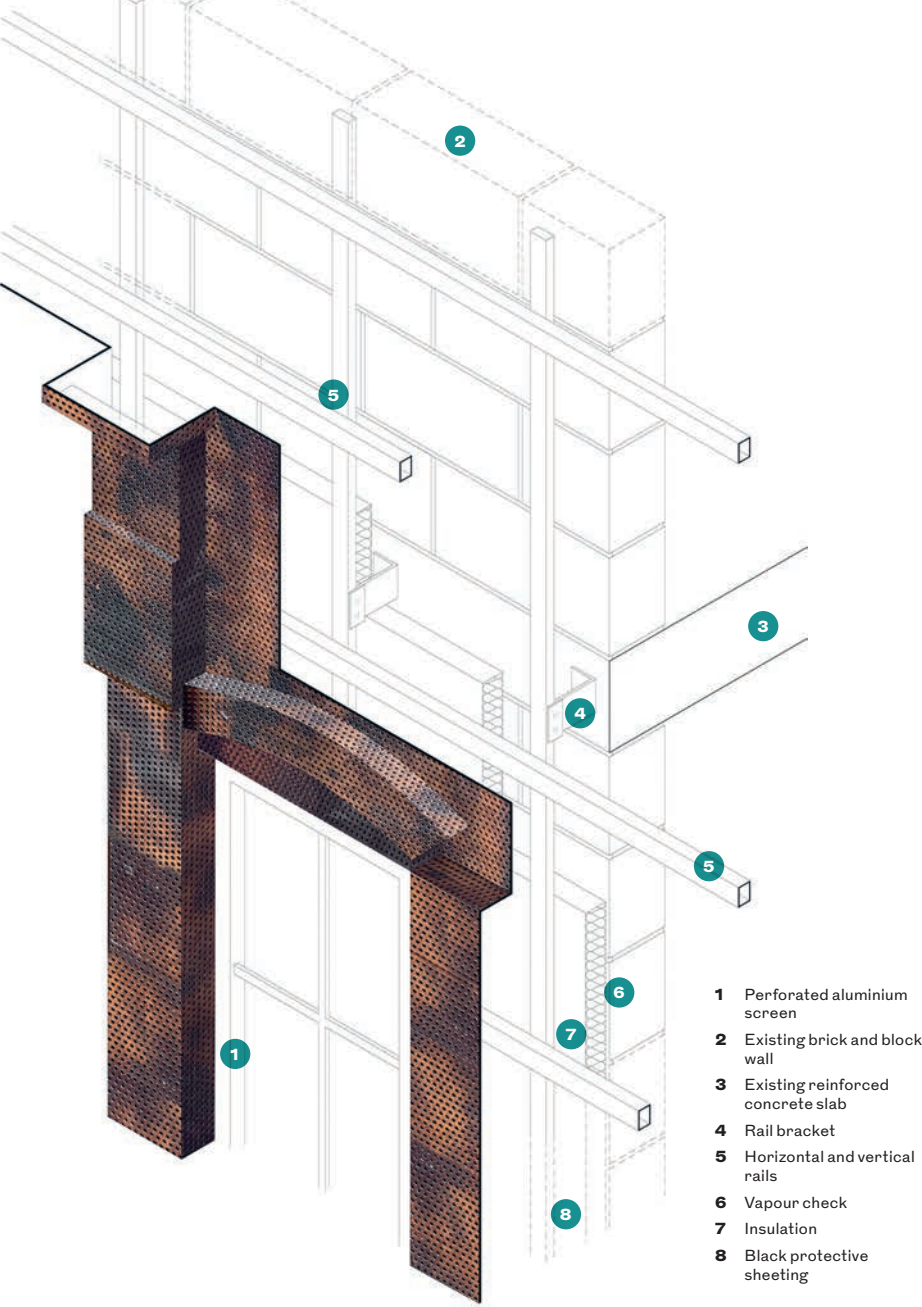
Top Architectural elements are playfully subverted as part of the new, more energy-efficient facade. Right Folded mesh panels give a lightness that contrasts with expectations of a design informed by historic precedents.



Ground floor plan in context



Detail of new mesh wall over existing structure



in terracotta-coloured concrete of the long-lost Victorian corner building that once occupied the site. At Bleeding Heart Yard, the tongue-in-cheek composition turns to the past by reinstating historic facades, but does so with telling changes that are not instantly obvious. These include missing pieces of entablature and other architectural elements – seemingly load-bearing pilasters and columns don’t actually touch the ground. The veil of 1.5mm mesh further plays with expectations by replacing the solidity so often associated with the past with lightness.

The practice calls it ‘misremembered, corrupted and a trick to our nostalgic expectations’.

References abound. A conversation with Taha about the project careers dizzily through Gottfried Semper, John Ruskin, Robert Venturi and pommo, Rachel Whiteread and many more. With some regret, the practice says it can’t in any way claim to be the first to play around with historical precedents in this way. It cites Giulio Romano’s Palazzo del Te in Mantua, Italy, in the 16th century and, rather more recently, the work of Diener & Diener at Berlin’s Museum of Natural History and Do Ho Suh, a Korean artist who creates ghostly architectural structures using translucent fabric.

In the new facade build-up for 8 Bleeding Heart Yard, 250mm of Rockwool cavity insulation was added to an internal layer of blockwork that had been introduced to supplement the original half-brick outer wall in the 1980s. Externally, the envelope gained a further 250mm of insulation on the rear and sides, and 150mm on the facade. This is faced with a robust, black, breather membrane by Illbruck and folded metal mesh panels by Dmitro Facades in depths ranging from 50mm to 1200mm. These are fixed back to brackets on the brickwork mounted on vertical rails. New windows are by Reynaers. Overall,

The tongue-in-cheek composition turns to the past by reinstating historic facades, but with telling changes that are not instantly obvious



Above Groupwork enjoyed creating a façade that ‘misremembered’ the appearance of buildings that previously occupied the site. Photo credit: Tim Soar



Above Extension, with ghostly, semi-transparent roofline.

Below Balustrade to a new terrace overlooking the narrow access road to Bleeding Heart Yard.



Cladding

It required a finish applied in-situ by hand using rollers and brushes via cherry pickers to give the required variation of tone

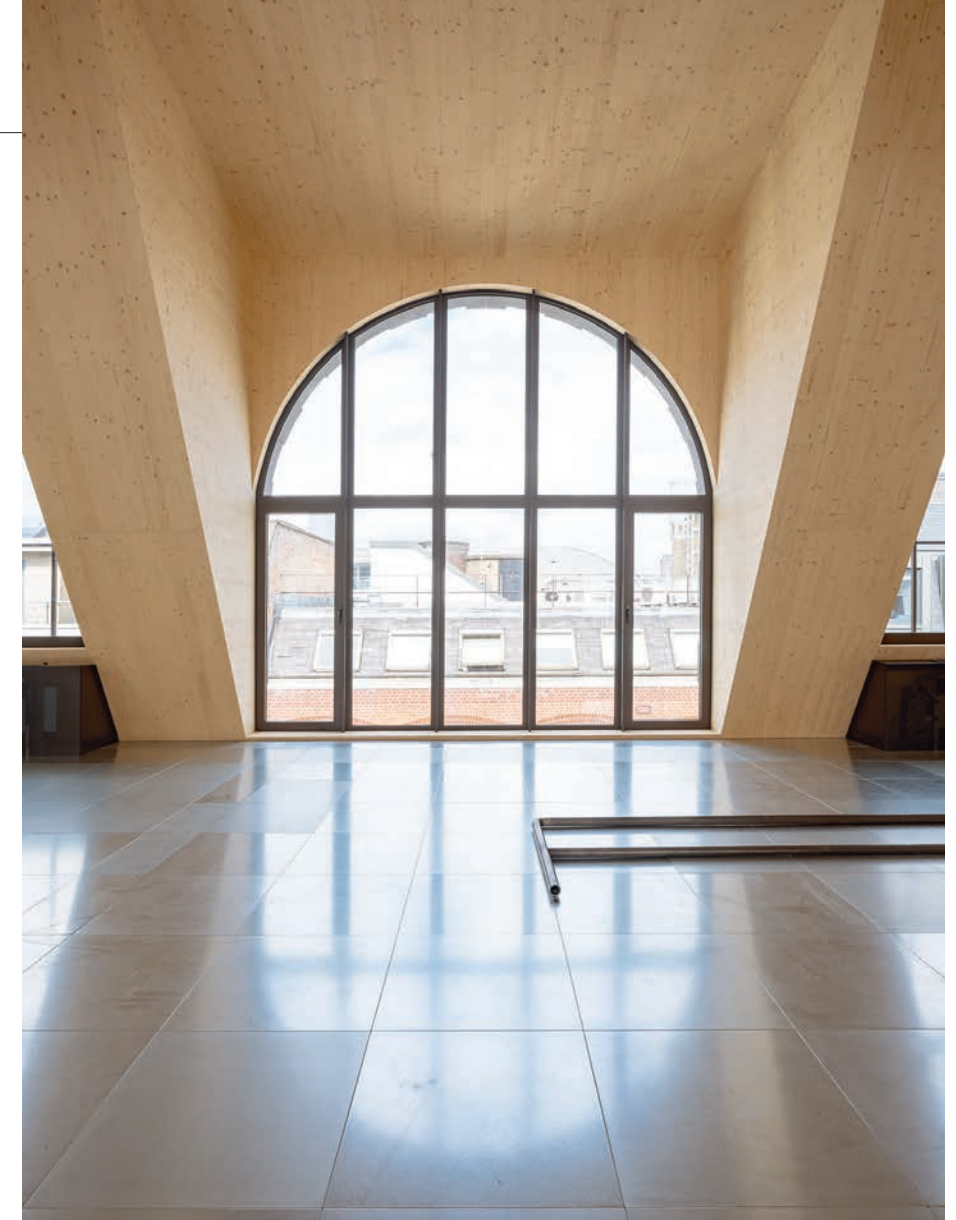
the U-value of the wall is now 0.13.

On the facade of the extension, the wall build up consists of 200mm of CLT, 250mm of Rockwall insulation, vapour barrier and mesh.

The practice collaborated with Winthill Metalworks and Working Metals to create two prototypes using brass panels. A sample area was installed on the building for many months during the planning process, to ensure no surprises later. The metal was pre-patinated in acid, and had a perforation ratio of 70% solid:30% holes at the base, rising to 50:50 then 30:70 higher up the building. Holes of different shapes and sizes were explored, with round giving greater strength. The introduction of folds into the mesh panels gave further strength, as well as allowing the architect to model the facade in response to the original buildings. Fixings were exposed for honesty and ease of maintenance.

Despite the success of the brass prototype – which was within budget – the contractor chose the more widely-used aluminium for the final build. This involved a hand-finish applied in-situ with rollers and brushes via cherry pickers to give the required variation of tone.

Taha hopes that people will enjoy the humour of the composition and is unconcerned that some may take the playful facade on face value as original. The critique of nostalgia is clearly a rich vein with, he hopes, much more to explore on further projects. But even if the games he's playing will pass many by, there's nothing fanciful about the impact of the over-cladding. In combination with air source heat pumps, new windows and part passive environmental controls, it has reduced energy consumption to 35kwh/m²/yr, which equates to a fall in reduced operational carbon to 4kgCO₂/m²/year across an expected 70 year lifespan. This relates to a Leti target of 55 kWh/m²/yr, which would equate to 7.48kgCO₂/m²/year. ●



Above An arched window was incorporated into the upwards extension, echoing a feature of a past building on the site. **Left** An extension of glulam beams and CLT floors, walls and roof provides highly insulated, additional office space.

Credits
Contractor RED Construction Group
Structural engineer Atelier One
M+E engineer Webb Yates Engineers
Heritage consultant Donald Insall Associates
Fire engineering Sweco & IGNIS
Facade sub-contractor Dmitro Facades
Planning consultant Tibbalds
Rights of light & project management Avison Young
 Selected suppliers
CLT Hybrid Structures ● **Breather membrane** Illbruck ● **Windows** Reynaers ● **Insulation** Rockwool

Specified



1
StoTherm Mineral K EWI boards
STO

‘Hello? Who??...Mr Corbusier? I’m afraid you’re going to have to speak up..it seems like it’s a very bad line from the OTHER SIDE...’

‘Sorry, what? I see. You’re feeling let down on the old Radiant City front. I know, I know...you meant ‘building in a park’, not car park... but hey, at least you can’t knock us for the renders. This StoTherm Mineral K not only helps insulate but it’s A2-s1,d0 classified and got a StoSilco resin finish with high levels of water repellence..’

‘...yes, yes; I get it’s not your ‘masterly, correct play’ etc, but it should look better than your Villa Savoye did by the mid-60s...’

sto.co.uk

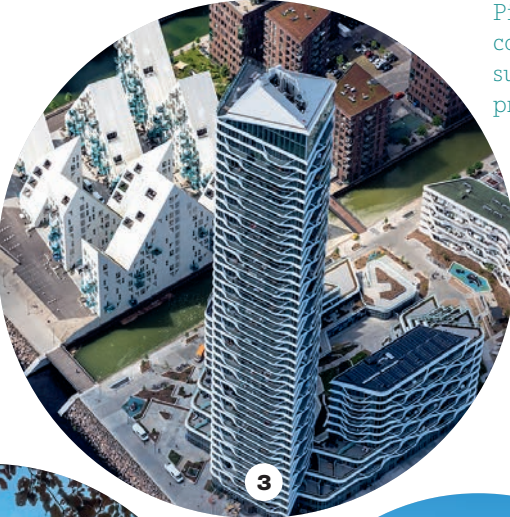


2
CUPA R12 natural slate roofing
Cupa Pizarras

RIFF RAFF: You’re wet.
JANET: Yes, it’s raining.
RIFF RAFF: I had no idea. Our brand new Cupa R12 Excellence slates have a 100-year guarantee, so I won’t know when it’s raining for quite some time to come. I think perhaps you’d better both come inside.

JANET: Oh Brad, I’m frightened. What kind of a place is this?
BRAD: Oh, it’s probably some kind of hunting lodge for rich big shots. But with a roof tested and certified to T1, S1, and W1, it offers excellent peace of mind. So dammit, Janet; stop snivelling – we’ll be just fine.

cupapizarras.com/uk



3
XT Freeform custom aluminium profile sheets
Kalzip

We had that Christo and Jeanne-Claude quoting, and they said they could only do tarp so we asked that Alexander Calder and he said he can do nice sheet metal but only if it’s moving and 142 metres up well we thought dodgy so we had that Salvador Dali have a look and he said what you want is a nice lobster NOPE so Kalzip finally they done a blinder: 480m² diagonal curved-ridge parallelogram with opposing rounded corners, numbered aluminium sheets craned up there, standing seams flanged on site and no scaffold.

Work of art.

kalzip.com



4
Electrochromic and fire protection glass combination
Saint Gobain

‘Saint-Gobain’s triple-glazing with solar control Sageglass Harmony and fire-protective Vetrotech Contraflam literally saved us from climate change!’

‘True. But we can’t go out - and even if we could, there is no ‘out’ any more.’

‘Thank goodness for the roof terrace. I know we can only use it in January, but still, you know... it’s still there.’

‘Who’d have thought that a custom smart envelope based around a simple ESG framework would end up protecting us, the last man and woman alive? Eh Janice?’

‘If you’re suggesting what I think you’re suggesting, Mr Wobblethwaite, you can forget it.’

sageglass.com

ADRIEN BARAKAT

PiP specifieds are compiled from supplied company press releases

Bespoke Rooflight Solutions

Project Architect: Henning Stummel

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Stage is set for evolving film studio demands

There's drama in construction as the industry prepares to meet movie makers' requirements for bigger, more flexible production facilities

Words: Josephine Smit

It is perhaps a paradox of the movie industry that its magical worlds are created in buildings that are essentially big boxes. Those dream factories have become slightly less of a rarity in the UK landscape in the wake of streaming and government support for production here.

The new era of studio development has brought larger stages of 10,000-20,000sq ft, to enhance flexibility in use, and more diverse facilities. 'We've seen a trend for more production-style hubs, more campus style studios where there's a mix of large stages, space for virtual production and also more rooms for tenants and even for training,' says Samantha Perahia, head of production UK at national agency the British Film Commission (BFC).

According to property consultant Knight Frank's 2023 report on the UK film and tv studios market, one million square feet of stage space was developed in 2022-23, with newbuild, converted and demountable stage space helping to meet feverish demand. Since then, numerous factors have affected global production, not least the long-running actors' and writers' strikes in the US. With the strikes resolved, production is ramping back up at studios, says Perahia, but she still describes this as an 'extraordinary moment' for the industry. Strikes, pandemic and a changed economic context mean, she says, that 'the film and tv industry is readdressing its own needs and looking at quality over quantity'.

That could be reflected in development activity. Knight Frank

The film and tv industry is readdressing its own needs and looking at quality over quantity



TOMASZ KOZAK/COZAKPHOTO.COM

estimates that, taking a mid-point between high and low-growth future scenarios, around 2.6m sq ft more studio space will be needed by 2028. 'Now I think we'll find that there's less of a race and further development of stage space can be planned over a slightly longer time frame, allowing for additional considerations, such as environmental measures, etc,' says Jeremy Pelzer, senior stage space strategy advisor at the BFC.

Campus complexity

Studios can be complex and costly projects, 'not because of what they look like on the outside, but because of what happens on the inside to make them energy efficient and perform acoustically', explains Graham Mackfall,

Above Sky Studio's new facility at Elstree & Borehamwood by UMC Architects, at nearly 600,000 sq ft, reflects the demand for new studio space in the UK.

Opposite right Architect PRP's Space Studios in Manchester, for client Manchester Creative Digital Assets, has 80,000sq ft of stages and support facilities.

director at UMC Architects. They are also large in scale, with the 585,000sq ft Sky Studios Elstree campus in Borehamwood, Hertfordshire, having six sound stage buildings containing 12 sound stages, two production support buildings for activities including costume-making and set construction, an amenity building and a multi-storey car park.

Sound stage buildings need to be

flexible to adapt to the requirements of production company occupiers, by allowing for internal division walls to be reorientated or removed totally. During Sky Studios Elstree's development, says Mackfall, 'they had an occupier that needed a certain-sized space, so even before we'd finished construction of one of the sound stage buildings, we didn't build a wall intended to divide one particular space'.

This is just one factor differentiating a sound stage building from the industrial buildings the practice specialises in, he points out. 'In an industrial building, we would have a hit-and-miss portal frame, which gives you decent open span space and works for logistics. But a studio will have a latticed-truss design because there are a lot of services to hang, and there's a requirement for walkways and gantries at high level to allow lighting – hung from runway beams running perpendicular to the trusses – to be controlled.'

Another consideration is the acoustic performance of the structure and facade,

taking into account outgoing sound from the studio and local noise such as traffic from nearby roads. At Elstree, the steel frame is mostly clad in built-up systems, with insulated composite panels and glazing featuring on offices and public-facing elevations. The facade treatment of public-facing buildings responds to the context, with Sky's campus occupying a semi-urban site, facing Borehamwood and an access road. 'We have to make the buildings functional, but also as architecturally pleasing as possible,' says Mackfall. The welcome to the site is expressed by a feature arch, flanked by two buildings, echoing Hollywood studios.

A studio will have a latticed-truss design because there are a lot of services to hang, and high level walkways and gantries

The scale of the Elstree project made it viable for the architect to work with manufacturers to develop bespoke details which included design of division walls between studio spaces and the acoustic and thermal lining of external walls and roofs. 'Standard products didn't really hit the criteria we wanted,' says Mackfall, 'because, in the case of Sky, a key driver for the brief was creating the most sustainable film studio development in Europe at the time.'

UMC Architects' first work with the film industry was at Elstree, where it found itself part of a large cast, with Legal & General as client, Sky as occupier with its own brief and occupier-side design team in Arup, and UMC itself novated to main contractor BAM Construction. Since completing the project last year, the architect has secured more work in the sector, where it is applying its learning and research.

That research includes looking at enhancing sound stage flexibility further by adopting large acoustic sliding or folding internal doors and exploring



ANDY MARSHALL

Right Sustainability features heavily in new guidance produced by the BFC, not just on-site energy generation but better relationships of sheds with the landscape around such as shown at Space Studios in Manchester.

roof design options. Discussions with clients are also focusing on developing even more flexible spaces, with Mackfall talking of creating ‘the ultimate flexible big box in an urban location’, which could begin life as a logistics building and readily convert to studio space.

Logistics meets studio

Similar discussions are taking place elsewhere. ‘We previously might have been approached by clients who were new to the [film production] sector to build to a recognised industry standard. Then, if the market fell away, the stages could be used for logistics or similar uses,’ says Alistair Weir, partner with PRP. Now, he continues, ‘there’s ever more competition, and constructing to this “standard”, where margins are tight, is challenging, so the current trends are less design-led than viability-led.’

That has led to the increased interest in creating future-proofed stage spaces, which can be enhanced as needed. ‘For many productions, a “warehouse-plus” specification would be quite adequate,’ says Weir. ‘Productions are familiar with adapting stage spaces at their own cost to suit their specific requirements with regard to acoustic and building services performance, where these are not delivered by the base build.’ When filming ends, these added extras remain in place, enhancing the stage specification by stealth in a way that is ultimately more sustainable, he says.

There are many examples of disused warehouses being converted to stage space. Around a decade ago, the architect worked with Manchester City Council and its studio developer/operator/manager Manchester Creative Digital Assets (MCDA) to convert a 250,000sq ft former Sharp distribution warehouse in the city into stage space with supporting creative, digital and media office and event space.

‘Generally, those spaces are quite easy to convert for stage use,’ says Weir. ‘The infrastructure that’s there for manufacturing or warehouse spaces is typically tall, column free and with flat



slabs designed for the load of high bay racking – characteristics not dissimilar to those that would be required for stage space.’ The biggest challenges, he says, are the acoustic improvements required to the envelope and often the lack of load capacity in the roof.

Client and architect followed the Sharp Project with the purpose-built Space Studios, which has 80,000sq ft of stages and supporting facilities. ‘The demand that the Sharp Project had for studio space effectively led the development of Space Studios Manchester,’ says Rob Page, managing director of MCDA. Development is set to continue, with planning consent secured for another 40,000sq ft of purpose-built stages at Space Studios.

Flexibility is key to the studios’ success, says Page, which includes ‘making sure that, as well as traditional sets, we can accommodate green screen and virtual production set-ups quickly and easily’. With its lighting and equipment, stage space has long been power-hungry. ‘It’s difficult to achieve

The biggest challenges are the required acoustic improvements to the envelope, and lack of load capacity in the roof

energy savings against that, due to the high peak demands during filming and the unpredictable way in which stage space is used,’ explains Weir. But, he continues, ‘We’re looking at more sophisticated ways of energy generation on site, whether by photovoltaics or ground source heat pump.’ The Sharp Project and Space Studios have been retrofitted with both, supported by the government’s Public Sector Decarbonisation Scheme. These are expected to generate up to 70% of the power needed on-site in summer.

Sustainability features heavily in new guidance for new and existing studios, developed by the BFC. This initiative, funded by the Department for Culture, Media & Sport, draws on research by consultants including PRP and has already been shared with developers, investors and operators, with sustainability research being showcased at UK-wide round-tables with the production industry.

Round-table participants have shown ‘a clear ambition to make their spaces as green as they can be moving forwards and for new development to be as low impact as it can be’, says Pelzer. For Perahia, the objective of this and all BFC’s work is to ensure UK studio space, ‘stays relevant, competitive and ahead of the game’. It’s an objective investors, developers and designers share. ●

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Products In Practice March/April 2024

ribaj.com

Workplace specified: 18-20 Greycoat Place

Squire & Partners’ mixed-use building in central London uses different window treatments to denote uses, while reflecting the art deco context of its neighbour

Level 6 cladding panels
Bespoke 3mm aluminium panels, triangular shaped with folder returns, composed of multiple elements riveted together on rear.
Finish: PPC interpon D1036 RAL 9004 Matt HR (60 microns, 30% gloss)
Installed by Imperial Facades (now in administration, operating under Facade & Installation Services Ltd)

Bespoke juliet balustrades
Guarding, handrails and decorative infill bars made from bright mild steel and welded into single elements, side fixed to precast concrete sandstone columns.
Finish PPC coated to RAL 9004.
Installed by General Metal Constructions (GMC)

Sandstone cladding panels
Precast concrete panels clad with waterjet cut sandstone panels.
Sandstone facing material origin: Cove Quarry, Brownknowe Kirtlebridge, Dumfries, Lockerbie DG11 3ND.
Supplier/sandstone cutting: BlockStone www.blockstone.com
Precast panel manufacturer and installer: Decomo info@decomo.be www.decomo.be

Granite skirtings
Granite facing material: Hofmann Stone Swedish Black Granite, finish: flamed.
Supplier: Hofmann Stone Group www.hofmann-naturstein.com
Precast panel manufacturer and installer: Decomo info@decomo.be / www.decomo.be

Level 5 doors
Fabricated from Aluprof MB-86 ST thermally broken inward opening door
Frame finish: PPC interpon D1036 RAL 9004 Matt HR (60 microns, 30% gloss)
Glass: Triple glazed hermetically sealed unit, external pane with low iron acoustic laminate. Light transmission 63%; light reflectance 17.1; general colour rendering index 94.1; energy transmission 28.8; energy reflectance 42; solar factor 31.9; shading co-efficient 0.37.

Level 1-4 glazing
Fabricated from Aluprof MB-SR50N thermally broken aluminium curtain walling profiles with Aluprof bespoke bay mullion extrusion.
Glass: Double glazed unit, external pane with low iron acoustic laminate. Light transmission 69%; light reflectance 13.1; general colour rendering index 94.5; energy transmission 32.2; energy reflectance 40.5; solar factor 34.2; shading co-efficient 0.39; U-value 1.0; Rw 44, C-1; Ctr -4.
Fitted by Imperial facades (see above)

ARCHITECT'S STATEMENT
Henry Squire, partner, Squire & Partners

18-20 Greycoat Place is a new seven-storey building in the heart of Victoria, London, at the intersection of Greycoat Place, Greencoat Place and Rochester Row. It comprises four floors of workspace with duplex apartments above, while the ground floor is animated on all three sides with an office reception and retail use.

The development follows the curved line of the street and draws on the notable brick buildings and prevalent mansion block vernacular of the area, with a materials palette of

red sandstone and dark trim detailing. Scalloped sandstone pilasters reference the neighbouring art deco inspired Artillery House, and frame a series of contemporary projecting bay windows and recessed spandrels in dark aluminium – expressed in bands to visually divide the retail, office and residential uses within the building. The differing architectural treatments of the window bands include the amount of glazing used at each level – responding to the different daylight requirements of each use.

The rounded, set-back sixth floor, composed of metal and glass, reflects similar surrounding rooftop architecture

and houses 100m² of photovoltaic panels on its roof. The pressed, V-form detail of the cladding panels relates to the graduated concave form of the sandstone pilasters, creating coherence across the facade elements.

Office floor cores feature timber panelling, copper clad lift architraves and fluted plaster details that echo those found in the reception space. Technical innovations within the development include touchless access and air purification on the office floors, and antibacterial copper-coated details such as bespoke door handles designed and produced in collaboration with ironmonger Franchi. ●

Ground floor reception feature pendant lighting
Product: Flos Toccata (three rings)
Supplier: Sattler www.sattler-lighting.com
Installed by Edge MEPH (now dissolved)

Internal doors throughout
Manufacturer: Franchi www.franchi.co.uk
GF reception handle product reference: 'S&P Elements Series 2' designed in collaboration with Squire & Partners.
Fluted T-Bar lever handle PVD Satin Copper. Copper PVD to match the inox in colour TIC. CP.HL.NSP.
Additional ironmongery/accessories: Antibacterial coating applied to handles; coating by Franchi; SafeTouch

Timber panelling
Oak Veneer stained to match Shadbolt Smoked Eucalyptus. With a clear AC lacquer applied to the surface for fire rating
Subcontractor/installer: Form Group www.form-group.co.uk

Bespoke fluted wall panels
Material: Glass Reinforced Gypsum
Manufacturer/installer: Artisan Plastercraft www.artisanplastercraft.com

Ground floor reception floor tiles
Product: Kalksten (Hammer Artic) 600 x 600 porcelain floor tile
Manufacturer: CTD Architectural Tiles www.ctdarchitecturaltiles.co.uk/
Supplier/installer: ABM Tiling www.abmtiling.co.uk

MDF joinery coated in copper
Manufacturer/installer: Form Group www.form-group.co.uk
Liquid copper paint: VeroMetal Deutschland GmbH www.industrial-production.de
Supplier of copper: Creative Coatings (Spalding) www.creative-coatings.co.uk

Gia
4,052m²

Total floor area
4,500m²

Start on site
June 2020

Completion date
September 2023

Contract type
Design and build

TEAM
Architect Squire & Partners
Client ITC Properties
Development manager Rockhopper Real Estate
Structural engineer Heyne Tillett Steel
M&E/BREEAM/Fire/Acoustic consultant Hoare Lea
QS Potter Raper
Planning advisor DP9
Main contractor RED Construction

Rhodes House, Oxford

Clever use of glazing brings daylight into all the corners of Stanton Williams' largely subterranean new residential conference space for the Rhodes Trust

Words: Jan-Carlos Kucharek Photographs: Hufton + Crow



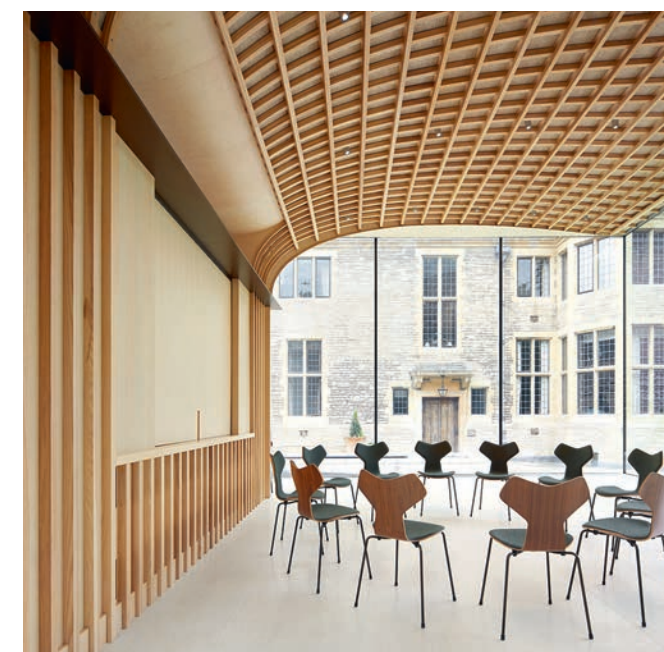
Above The south elevation of Stanton Williams' garden pavilion on the west side of Rhodes House. Suggested at planning, it has now become a key element of the redevelopment.

Right Its sculptural timber roof has helped ensure the pavilion's popularity for both formal and informal events.

Oxford is the centre for one of the world's most prestigious and exclusive scholarship programmes – the Rhodes Scholars. Since its founding in 1902 awarding funded places to male students, it has modernised over time to include women, people of colour and most recently non-binary students. The same could not be said of its 1929, grade II* listed home, Rhodes House. While concrete-framed, it was designed in the style of an Arts & Crafts Cotswold manor by Herbert Baker but when trustees insisted on a late change to incorporate a memorial hall for scholars who had died in WWI, he made this part of the main entrance, curiously designed as a Greek neoclassical rotunda – entablature, columns and all.

In carrying out the Trust's £38 million modernisation, refurbishment and extension of the building, not least to address one of the last barriers for scholars – accessibility – the trustees were aware that its physical estate could be assured only if it remained free of any reliance on scholarship funds. Architect Stanton Williams allows the Trust to do just that – with a new, 300-person convening hall, associated spaces and offices, all invisibly set into Rhodes House alongside 37 bedrooms in the old east wing and new bedroom block in the east gardens, and new glass pavilion. The project will generate income to secure its future with its overlay of a state-of-the-art residential conference facility.

Key to the transformation were the basement level archives under



Baker’s building, built in the 1950s for the Bodleian Library’s Commonwealth collection but left empty when that was taken off site. Mat Davies, Rhodes Trust director of estate, recalls the striking simplicity of the architect’s proposal to bring these back into use by directing conference delegates from the entrance down to them, via support spaces, to the new convening hall below the south side terrace. This unlocked the building’s new programme with barely a change to it, ‘separating delegates from the scholars, alumni and staff using upper levels’.

But that demanded a new access stair in Baker’s memorial hall, which required buy-in from local planners and Historic England. ‘Their initial reticence forced us to address their concerns with something as good as it could be, and though bold, it was absolutely the right solution,’ says Davies. Stanton Williams associate Tom Fotheringham adds that the firm’s handsome, self-supporting limestone stair, designed with engineer Webb Yates, has both a functional and architectonic purpose. ‘Part of the justification was that the alternatives were more harmful to the building and that it could enhance the quality of the volume by making it feel less transitory – giving it gravitas.’

But if gravitas at this lower level pre-supposes darkness or weight, visitors may be surprised, for the architect has used cleverly inserted roof glazing to bring unexpected lightness, beauty and utility to formerly unlit spaces. The dank external lightwells either side of Parkin Vestibule were closed in with Schüco FWS 60 units on structural steel sections to allow daylight into new catering and serving spaces for delegates. This brought other benefits for the listed structure, says Fotheringham: ‘We couldn’t add internal or external insulation, so glazing over the lightwells improved the building’s form factor and its overall thermal performance.’ With high level louvres, they also aid extract and smoke venting and help brighten the most light-starved, central portion of the basement, where new breakout spaces are placed. Two lines of 1m thick concrete walls, set beneath the wall line of the main dining hall above, needed to be broken out to link these and the convening hall with a pair of stairs at the south end. All new timber doors, reveals and walls in this space are lined in maple to reflect the building’s historical materiality – the



Above Herbert Baker’s entrance portico on the north side, based on a Greek Temple, leads directly to the circular memorial hall.



Right The Portuguese limestone self-supporting stair leads delegates down to the main conference spaces at basement level.

Below right North of the new garden pavilion, double-glazed rooflights let daylight into the concrete box that forms the basement office/admin area.

Bottom right Thick concrete walls in the basement had to be broken out to allow easy circulation from the north ‘stair’ end to the south side, where the hall is.



NEIL KEYNON (2)

JAN-CARLOS KUCHARÉK

Ground floor plan and landscaping

Sketch isometric showing new additions

Basement plan

Section AA

- 1 Entrance

2 Rotunda

3 Parkin Vestibule

4 Milner Hall

5 ‘Giant’s Grave’ courtyard

6 Kitchen

7 West wing
- 8 West Lodge

9 West Garden pavilion

10 East wing

11 East Lodge with courtyard lift

12 Garden room/café

13 Residential courtyard

14 Office area
- 15 Conference space

16 Lightwell

17 En suite bedrooms (2 accessible)

18 Circulation to conference space

19 Visitor cloakroom

The arch creates the highlight of the clear span space – a huge Schüco FWS60 glazed unit. Contractor Goldmax had to dig out 4.5m further into the garden to make the lightwell for the hall's escape stairs while this low Diocletian arch makes the relationship with the garden immediate. 'We did look at flat beam with clerestory here, but it didn't allow the garden to be experienced as it is or for the hall to enjoy the light that it does – it's amazing,' says Davies. He seems as happy with other specs here too, such as the elegant timber coffers and London Wall sliding acoustic partition system. Fotheringham notes that contractor Goldmax worked hard on the concrete package – both the muddy groundworks and the high quality surface finishes the architect demanded.

Standing at the Milner Hall's Oriel window, it's hard to imagine that you might have been facing a three-storey suite of guest bedrooms, when the view to the remains of the city's Civil War defensive wall across the way is so tangible. It was certainly a planning concern, driving Stanton Williams to take the radical step of sinking guest bedrooms into the garden to make them virtually invisible. There is more engineering here with a retaining structure next to the old wall and the liner wall aside Rhodes House's foundations, but the result would not look out of place in Tolkein's Shire; 16 guest rooms hunkered into the gardens, looking across at each other from their own cobbled courtyard. The architect chose English oak veneer for doors and windows, retaining a sense of tradition but bringing lightness that counterpoints timber specification in the main building. Double glazed units, each with an opening side vent panel, were procured from Braden Timber. Their low U-value and rooms' high thermal mass makes en suite spaces warm using nothing more than a low output radiator. Brick reveals sloping down and back to lintels increase light into and views out of rooms. A lift in the east lodge reception gives access to two Part M compliant bedrooms here – in all six new lifts make the building fully accessible.

The most visible element of the development was not even asked for. Proposed by the architect after a site visit saw study groups using the garden, the new pavilion, in the centre of the west



Top In a bold move, all accommodation is sunk below grade to create clear views east to the remains of Oxford's medieval city wall. **Above** Accommodation block looking south. The visual relationship between Rhodes House's east elevation and the landscape in front is virtually unaltered. **Left** Comfortable and warm en suite bedrooms are fitted out in oak veneer, contrasting with more traditional maple joinery in conference areas. **Top right** The conference centre has been cleverly sunk on the south side of Rhodes House. Its Diocletian window is seen beyond the new lightwell with emergency escapes. **Right** The conference room's wide, shallow arch strategically admits natural daylight to an otherwise subterranean space.



Credits
Client Rhodes Trust
Architect Stanton Williams
Main contractor Beard Construction
Conservation architect and heritage consultant Pendery Architecture & Heritage
Heritage assessment Marcus Beale Architects
Structural engineer Webb Yates Engineers
Building environment and services engineer Skelly & Couch
Landscape architect Bradley-Hole Schoenaich

Fire consultant Arup
Lighting designer Studio Fractal
Acoustic engineer Sandy Brown Associates
AV/IT consultant Hewshott International
Cost consultant Gleeds Cost Management
Planning consultant Savills
Ecologist Applied Ecology
Arbiculturist Heritage Tree Services
Archaeology consultant Museum of London Archaeology

garden, 'is something we now couldn't imagine being without,' says Davies. First proposing a faceted timber structure atop a floating concrete plinth, Stanton Williams moved to a curved soffit to meet the roof's LVL ribs, and needed to use a timber that could be easily steam bent. It deferred to the expertise of Braden Timber who was delivering it, choosing ash for the battens and panels. Most striking is the fact that it is completely glazed on all sides. IQ Glass was responsible for the mighty 5m by 2.5m, 52mm thick Guardian Extraclear triple-glazed structural glass units running round the pavilion. Davies explains that it is part of a service engineering strategy, treating it as a solar collector, to supply heat from it to meet the old building's demand. Fotheringham adds that this led to novel choice of glass. 'We looked at G-values and solar coatings and found that better performing glass in fact resulted in greater carbon use by the building's heating system, restricting solar gain so it was more carbon intensive; we had to take a holistic approach here.' So the firm chose a SunGuard SNX 60 layer. Heat and light doesn't bother users, says Davies: 'with only mechanical cooling, we're blown away by how comfortable it is, even in summer.'

If you think the pavilion sits on grass, think again, as extending from below it to the north boundary are Rhodes House's admin and meeting spaces. Schüco ASE 60 glass doors open to a north lightwell and more Schüco FWS 60 glazed units at garden level run in line with structural beams to let daylight fill the new subterranean offices. Accessed from the old basement level, it's another sequestration that allows the building to perform private and corporate functions concurrently.

Surely all that digging out cost a fortune? Initially, we'd thought so, admits Fotheringham, noting that subterranean buildings are rare in Oxford. 'But once we'd agreed on a below ground approach, despite excavation and groundworks, we saved on the costs of creating facades and high-quality finishes, so there was little difference to the bottom line.' But, along with the refurbishment works, what it has done is allow the old building's purpose to be completely re-imagined. And, sunk within its gardens, it's all been done almost without trace to ensure it is profitable and future-fit. ●

Specified



1
Listed steel-framed leaded window refurbishment
ASWS

‘Where did you say the wind was, Richard?’ asked Mr Jarndyce.
‘In the north as we came down to London, sir.’
‘You are right. There’s no east in it. It’s getting round again, I am afraid. Good job ASWS replaced the blown panes and perished came on the lattice windows, spliced in new timber, refinished the steel frames, and even stripped and repolished the brass hardware!’
Richard observed that the situation was exposed on a sharp night.
‘It is exposed indeed,’ said Mr Jarndyce, ‘and Bleak House has an exposed ring to it. Let’s change the name to Bide-a-Wee. Come along!’
asws.co.uk



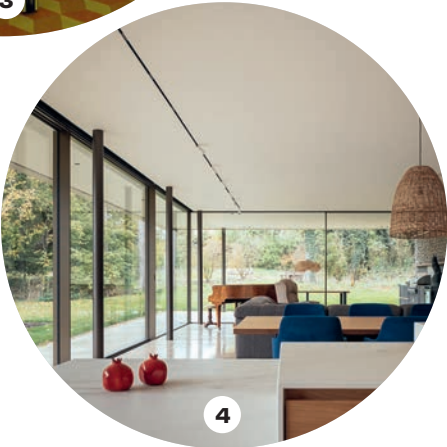
2
Alligator aluminium gutters and downpipes
Marley Alutec

They seek me here, They seek me there, Those Frenchies seek me everywhere...
Am I in heaven? Am I in hell? Neither! These days, I pass unseen at will via this powder-coated marine grade aluminium Boxer gutter and Flushfit downpipe, sited unobtrusively on a Norfolk sports pavilion. Handy for the continent, a 50-year guarantee no less, and of such generous capacity and strength, La Revolution’s demmed Galvanic sentries are foxed – even though I’ve gained a bit of weight since 1792.
‘Elusive’, I’ll take. But please stop calling me ‘Scarlet Pimpernel’. It’s Sir Percy or Sir – the demmed cheek!
marleyalutec.co.uk



3
Dorma Hüppe Styleflex semiautomatic moveable wall
Style

The billionaire Hinduja brothers announced yesterday from their Raffles London penthouse suite that they have successfully ended war forever.
‘A bank of 6.5m semiautomatic Styleflex partition panels in the erstwhile Old War Office ballroom effortlessly sashayed into position at 8pm, finally separating warring parties’, a spokesman told us.
‘This 60db acoustic barrier means you can have the Actual Baddies over there, and the Lovely Angelic Goodies here with us, and everyone can have a good old scream about Evil Others without annoying the er... “neighbours”. We’ll get them though. Quietly.’
style-partitions.co.uk



4
Keller Minimal Windows sliding door system
IQ Glass

Hi, I’m Kevin McCloud’s stunt double. You wish you were me, don’t you?
Well I don’t. I am just so tired of tripping over massive thresholds into people’s overblown newbuilds and pastiche conversions! It’s all very well building something that’s a statement... imposing... grand, even... But... But! Sometimes you just want to go in chin-first inside a sleeping bag, don’t you? Because... Because? Well, why not?
Slim-framed thermally insulated sliding doors with flush thresholds. They’re the way forward. Well. They certainly are if you want to avoid multiple takes and bruised calves if you’re looking to wriggle your way in.
iqglassuk.com

PiP specifieds are compiled from supplied company press releases

Costed

James Garner, global head of data and insights and analytics, and Nicola Sharkey, UK insights and research lead, at Gleeds, advise on costs

With decarbonisation high on the agenda for both housing and public sector buildings, there is a strong pipeline of work to improve the existing building stock. Double glazing has become the industry standard and will be crucial in reaching net zero targets. Triple glazing is also gaining popularity, especially in projects aiming for Passivhaus standards.
When specifying, it is essential to focus on key factors

such as thermal efficiency (U value), solar gain (G value), and air leakage (L value). In addition, the importance of acoustic performance and aesthetics should not be overlooked.
The following rates include the supply and hang of doors and windows, complete with all frames, architrave, typical medium standard ironmongery set and appropriate finish. Note that prices can vary significantly depending on specifications. ●

The following rates are based on the UK average and represent typical prices at 1Q 2024

DOORS	
Softwood external doors	£ each
Standard softwood doors and hardwood frames; painted; inc ironmongery	
Matchboarded, framed, ledged and braced door, 838mm x 1,981 mm	675-825
Flush door; cellular core; plywood faced; 838mm x 1,981 mm	700-850
Heavy duty solid flush door: single leaf	1,500-1,850
Heavy duty solid flush door: single leaf; emergency fire exit	2,000-2,500
Steel external doors	£ each
Standard doors	
Single door, inc frame, ironmongery, powder-coated	1,200-1,500
Single security door, inc frame, ironmongery, powder-coated	2,500-3,000
Bullet resistant doorset	
Single, 1,000mm x 2,100mm steel with decorative ply veneer	5,000-6,250
Overhead doors	£/ m²
Single skin; manual / electric	225-275 / 375-450
Electric operation standard lift, 42mm thick insulated sandwich panels	275-325
Rapid lift fabric door, external, electric operation	1,150-1,400
Dock shelters	£ each
Curtain mechanical shelter; extruded aluminium frame; two side, one top curtain double-layered high-quality polyester, coated both sides	1,500-1,750
Inflatable mechanical shelter; hot dipped galvanised surface treatment, polyester painted, top and side bags with polyester fabric panels; colour from standard range	4,750-5,500
uPVC external doors	£ each
Entrance doors; residential standard; PVCu frame; brass furniture (spyhole/security chain/letter plate/draught excluder/multipoint locking)	
Overall 900 x 2,100mm half glazed	600-750
Overall 900 x 2,100mm half glazed; WER A rated	625-775
Overall 900 x 2,100mm half glazed; coloured	700-850
Automatic glazed entrance doors	£ each
Automatic revolving door; 2.1m diameter, 2.2m high; clear laminated glazing; 4nr wings; glazed curved walls	35,000-45,000
Automatic sliding door; bi-parting opening 2.0m x 2.3m opening	12,000-15,000
Internal doors	£ each
Standard doors	
Cellular core; softwood inc architrave; aluminium ironmongery (latch only)	
Single leaf; moulded panel; gloss paint finish	400-500
Single leaf; Sapele veneered finish	450-550

Purpose-made doors	£ each
Softwood panelled, lining and architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
Double leaf; four panels; mouldings	1,250-1,500
Hardwood panelled, lining and architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
Double leaf; four panels; mouldings	2,300-2,800
Fire doors	£ each
Standard fire doors; cellular core; softwood lining and architrave; aluminium ironmongery (lockable, self-closure); painting or polishing	
Single leaf; oak veneered; 30 min fire resistance; polished	600-800
Double leaf; oak veneered; 60 min fire resistance; polished	1,800-2,150
Ironmongery sets	£ each
Stainless steel ironmongery; euro locks; push plates; kick plates; signage; closures; standard sets	
Office door; non locking; fire rated	400-500
Standard bathroom door (unisex)	350-450
Accessible toilet door	225-275
Fire escape door	2,250-2,650
WINDOWS	
Softwood windows (U-value = 1.6 W/m²K)	£ m²
Standard windows	
Painted; double glazed; up to 1.50m²/1.50m²-3.20m²	550-675/425-500
Painted; double glazed; up to 1.50m² / over 1.50m²	800-950 / 675-875
Hardwood windows (U-value = 1.4 W/m²K)	£/m²
Standard windows; stained; double glazed	1,250-1,500
Purpose-made windows; stained double glazed	1,400-1,750
Steel windows (U-value = 1.6 W/m²K)	£/m²
Standard windows; double glazed; powder coated	750-925
Purpose-made windows; double glazed; powder coated	1,100-1,350
uPVC windows	£/m²
Standard ironmongery; sills; factory glazed with low E 24mm double glazing	
WER A rating	375-475
Secured by Design accreditation	375-500
Extra for colour finish to uPVC	75-100
Composite aluminium/timber windows; U-value = 1.5 W/m²K	£/m²
Purpose made windows; stainless steel ironmongery	
Fixed windows up to 1.50m² / 1.50m²- 4.00m²	350-450 / 325-405
Outward opening pivot windows up to 1.50m²	825-1,000
Outward opening pivot windows 1.50m²-4.00m²	375-475



Twilight House, Birmingham

California lights up Birmingham as Intervention Architecture channels John Lautner's Schaffer House for its domestic extension and fitout

Words: Will Jennings Photographs: Dion Barrett/Studio50two

It's not unusual for architects to reference details from an earlier time, pulling ideas from the past into new contexts. Intervention Architecture has done just this with Twilight House, transposing to Birmingham the aesthetics and qualities of John Lautner's mid-century Schaffer House in California. The quotation, however, wasn't direct but came via fashion designer Tom Ford and his 2009 film *A Single Man*, based on Christopher Isherwood's novel, which was shot in the Schaffer House.

The film reference came from the architect, though the client was happy to follow. 'They put complete trust in our vision,' says Anna Parker, director and founder of Intervention Architecture, 'from our ideas of materials, exposing the structure where possible, and having natural finishes throughout.' Through these details, as well as a careful

palette of colour, light, and furnishings, Lautner's sleek modernism and Ford's tonal range are translated into not just a place to dwell, but a space of transition from inside to out.

To the front, the Victorian property addresses a key suburban road, but the rear looks into a deep and mature garden. Nearby properties might have opted for Victorianaesque extensions, but project architect Marina Strotz wanted a more industrial approach, expanding the entire width of the elevation and adding a filmic window, inviting those inside towards a stepped terrace.

It starts with a generously sized kitchen which acts as a backstop to the extension. Strotz and her colleagues had also worked on parts of the main house, connecting new and old with a brushed, smoked oak herringbone floor. This passes through a single doorway in

the full-height kitchen cabinetry – deep units painted in Little Greene's Obsidian Green, a darker hue of the nature calling back through the facing window.

The clients enjoy cooking and entertaining, both of which can now be focused on a space-filling Neolith Beton



work surface island, supplied and fitted by Ultramarble. Light fittings add an industrial edge, shedding soft light on the space, that becomes gentler still when it hits the Clayworks-supplied pigmented plaster ceiling and walls – 'that kind of natural, living, breathable material that responds to the light,' Parker explains.

The parquet floor and plaster walls continue as the kitchen subtly gives way to the living and dining space, defined by a change in level, while the palette and finishes also gently soften as the conversation with nature becomes more profound. Intervention Architecture was involved in selecting the furniture throughout, including sofas upholstered in umber and a leather New Grigri swivel

chair, conveying a shift to the sensuality of the garden as you approach it.

This is all further enhanced by a change in the quality of light courtesy of glazing to the pitched roof. North-facing light bounces off vertical structural timbers connected with pronounced and celebrated steel plates. 'We worked closely with the structural engineer,' Parker says of this industrial riff. 'I think it's something that the Tom Ford film references really well, an exposure of all the elements in the home.' Along one side, new cabinetry makes way for a wall clad in 480mm long, narrow bricks from the Bespoke Brick Company, while the opposite cabinet is cut short by a Dik Geurts Odin Plateau wood burning stove.



Top left A single door in the wall by the kitchen storage leads back into the main body of the house.

Middle left Generous work surfaces make this very much a kitchen for entertaining as well as cooking. Its qualities are filmic.

Left A dedicated utility room allows space for humans as well as the family pet to get cleaned up before entering the house proper.

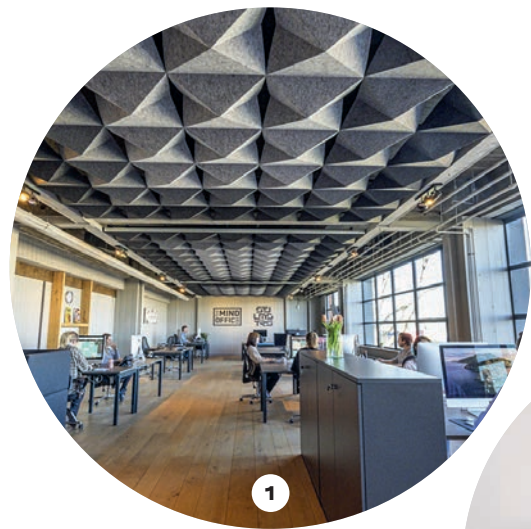
Top right There's a subtle level change between the kitchen and living space, differentiating the zones.

Middle right Glazing in the pitched roof of the living area draws you into the space as well as relieving the constructed 'gloomth'.

Opposite, below The living area has a wood burning stove while floor-to-ceiling glazing brings nature closer.

The house had very cellular Victorian spaces that didn't open-up or connect to the garden,' Parker explains, leading to the practice's design response as an 'inside outside space – kind of inspired by that Tom Ford aesthetic and a filmic quality of perceiving nature as you move through.' It is an aesthetic that's tightly adhered to across materials, light, tonality, and cinematic timbre – that is, with the exception of one additional room which has the house's third client at heart, Feargus, who now has his own dedicated dog-shower podium, the main feature of a side-annex that offers the owners space to clean their boots post-gardening, before entering their Lautner and Ford filmset. ●

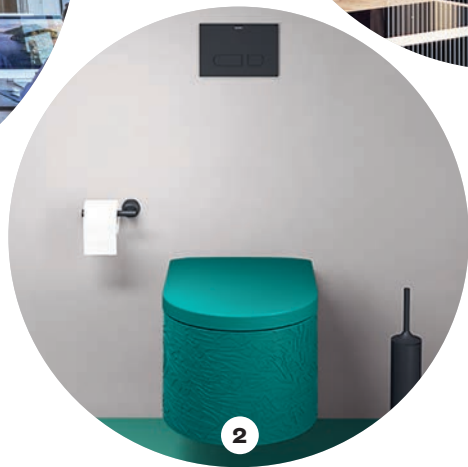
Specified



1

1
Heartfelt Origami acoustic tiles
Hunter Douglas

OBERON: I know a bank where the wild thyme blows, Where oxlip and the nodding violet grows, Quite over-canopied with Heartfelt Origami folds, With Weave and Curve, this year's two new shapes bold: There sleeps Titania sometime of the night, Lull'd in th'acoustic hush with easy-fit delight; And there the 600mm template many options underpins, Panels meet enough to trap a fairy in: And with these tiles of felt I'll damp the background roar By 0.5 to 0.8 - and dull proud Titania's isolated snore. hunterdouglas.co.uk



2

2
Vitrium/Millio sanitary furniture
Duravit

'No more porters on the catwalk, Sebastian!' 'But Ronnie's pure silver fox! He looked amazing up there, modelling Antonio Bullo's Millio toilet in vivid Greenblue Matt, one of six colours available in the new Christian Werner co-ordinated Vitrium/Millio range!' 'Sure, Ronnie's got the raw looks – and the muscles needed to style out that solid ceramic pan with Durocast Smooth patterned panel – but it's when he dropped his Calvins and parked it in front of Anna Wintour. He may have showcased best use of its bacteria-inhibiting glossy white bowl but he got headlines for all the wrong reasons, darling.' duravit.co.uk



3

3
Urban Nude cabinet doors
Keller Kitchens

Best night ever. No, seriously. We swerved Spearmint Rhino 'cos my mate got his card completely spanked in there once and instead we went to this new place called 'Urban Nude'. Amazing. TBH, it was a relief to find it wasn't a clip joint at all and we were actually in a Keller Kitchens showroom looking at these gorgeous new fluted glass Crittall-style black steel cabinet doors. Yeah, I left my AmEx behind the counter, no sweat. Kushti. I'm bringing the missus next week. kellerkitchens.com

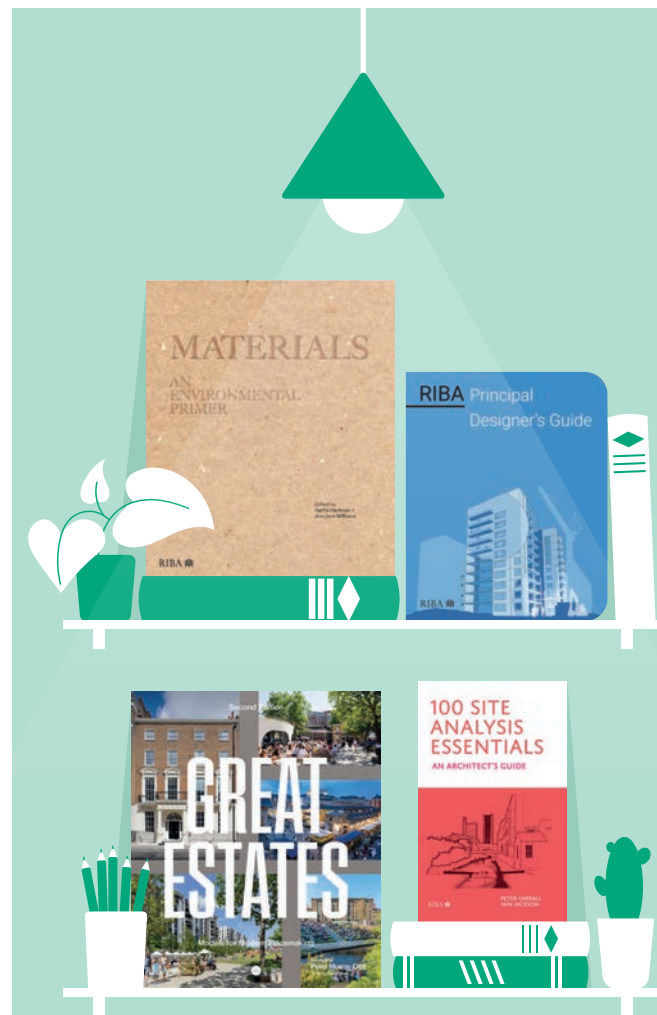


4

4
Pergo laminate flooring
Domus

Hey. I've seen that watering can you've walked in with. No need to be shy. Give it to me; you know you want to. The floor's not bothered – even though it's 80% PEFC-certified renewable surplus timber, it's still got a lifetime warranty cos it's so tough, with a multi-layer TitanX aluminium oxide protected surface, and a hard HDF core. Best thing about it though is it's super water resistant, even in the joints. So go on, do your worst – there's three of us in this pot and we're REALLY thirsty. domusgroup.com

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Warehouses to woo the public

The ‘big sheds’ holding wares for distribution aren’t often considered very aesthetically pleasing. But PiP’s webinar shows how such utilitarian projects can be interesting, intriguing and attractive

Warehouses and distribution centres are ever more ubiquitous, born of the digital economy. The anonymous roadside buildings contribute little joy to the built environment.

Exceptions do exist however, as shown in this PiP webinar, which uncovers award-winning buildings by leading architects and products by sponsors MSA and Tata Steel Europe.

Sarah Featherstone, of Featherstone Young Architects, introduces VeloCity, an all-female multi-disciplinary team whose origins lie in a 2017 National Infrastructure Commission placemaking competition. This scoped the construction of 1 million new homes in the Oxford-Cambridge corridor, accompanying a rail investment. The team focused on villages, which have a strong sense of place but suffer from loss of community facilities, isolation, car dependence and low-density sprawl. By connecting rural settlements with a ‘fine-grain network of cycling and walking paths’, villages could support sustainable growth which emphasises ‘light-footed’ connectivity in support of a sharing economy. Co-housing models with shared facilities, taking cues from local vernacular, also help create a compact, pedestrian-centred development.

The team is piloting the concept with the Blenheim Estate, connecting seven villages in a 20-30 year expansion plan. It facilitated the ‘Village Travel Network’ steering group to introduce infrastructure prioritising active transport modes, and proposed 40 affordable Passivhaus-standard homes.

But what of the protectionism often ingrained in rural communities, asks webinar chair Jan-Carlos Kucharek? There has been surprisingly little: due to the incremental plan, and unpopular pressure for large-scale housing development around Oxfordshire, villagers have been refreshingly welcoming. If successful, VeloCity is a scalable, transferable model for growth.

Moving from grassroots to working at height, Steve Pierpoint, specification manager of MSA, discusses the compliance and regulatory issues of fall protection systems, crucial in infrastructure settings.



PAUL RIDDLE



DAVID VALINSKY

Top Most Architecture's Charge Cars fit-out of a warehouse unit is part assembly plant and part Bond lair – in line with the bespoke electric car brand.

Above Tonkin Liu's low-carbon Tower of Light and Wall of Energy in central Manchester took inspiration from the city's industrial past.

MSA has a strong track record on high-profile and high structures – London's O2 Skywalk and the Sydney Harbour Bridge, for instance.

There is a hierarchy of fall protection, he explains, which begins with designing out risk, then guarding out the hazard, and



HUFTON+GROW

relying on fall restraint (which prevents the worker from nearing the danger) and fall arrest systems (a last resort). Importantly, the standard for working at height PPE (BS EN 795) only requires product testing on concrete roof structures. But as anchors perform differently on different materials, MSA tests load control on over 500 roof types. Pierpoint urges architects to familiarise themselves with the Working at Height Regulations and to consult early on specifications for the safest solutions.

Reaching even loftier heights, Tonkin Liu's 40m-high Tower of Light and Wall of Energy in Manchester forms the subject of Mike Tonkin's presentation. The structure encloses flues for Manchester Civic Quarter Heat Network's low-carbon energy centre, and is the UK's largest shell lace structure. ‘We wanted to herald low carbon through the delicacy of the structure,’ says Tonkin.

The practice looked to Manchester's legacy of chimneys for their sculptural forms. The twisting chimneys of historic palaces, for instance, conjure notions of the earth's rotation and orbit. Inspiration from the natural world included the grid-like structures of bamboo, glass sponges and cactus exoskeletons.

Shell lace is a technique that makes single surface structures. As the shield is the structure, the carbon footprint is low. At the base of the tower is a wall, 63m long, clad in glazed ceramic tiles in a dynamic interlocking pattern and a window allowing

The architecture must provide an exclusive client experience. ‘On the other hand, it’s a garage’

Above LA Architects' Winchester Sport and Leisure Park, despite being highly glazed, achieved BREEAM Excellent and EPC A ratings.

passers-by to view the technology on the brightly coloured inside. ‘It’s not often as an architect you are engaged to make a symbol’ says Tonkin. ‘This is a symbol of change, how green energy will be brought to Manchester’.

Next Olga McMurdo, director of Most Architecture, discusses Charge Cars, Stockley, an RIBA award-winning electric car production factory and business suite housed in a refurbished warehouse ‘high on tech and high on drama’.

The client is a ‘British start-up with a dream’ – to revive a classic 1967 Mustang Fastback as an electric car. Cars are built with high engineering precision and customisation, and the architecture must provide an exclusive client experience. ‘On the other hand, it’s a garage’ says McMurdo.

The building needed offices, garage, micro-factory, R&D labs, prototyping and testing facilities, kitchens and showers. Importantly, both workers and customers would have access throughout the building.

The practice looked at archive images of production assembly lines, but the ‘conveyor-belt’ method wasn’t suitable for highly customised cars. Here, each car has a bay, demarcated by lighting. Surrounding these are specialised rooms – quality control lab, mechanical prototyping and so on – which need specialist treatment such as acoustics.

The facility's minimal aesthetic creates an exhibition-like experience. R&D studios overlooks mechanical spaces. Leisure spaces are equally serious, as adjustable RGB lighting and turntable decks indicate. Branding, inspired by Richard Feynman's elegant diagrams of subatomic particles manifests throughout the project.

From car panels to pressed steel panels, Stuart Ruddy, national business development manager at Tata Steel Europe, reveals how this material can in fact be both sustainable and fire-safe. Use cases include Kohler Mira's distribution centre, whose Trisobuild Roofing System contributed to an EPC A rating and BREEAM ‘Very Good’. Tata is the first steel company to be approved as an EPD scheme operator, supported by intense life cycle analyses. Products also adhere to BES 6001 for responsible sourcing.

Leigh Pullan and Katie Winter of LA architects round off the webinar with their RIBA award winning Winchester Sport and Leisure Park, a new facility offering a 50m competition pool, 20m learner pool, 8-court sports hall, squash courts and gym. Of interest were the children's splash pad, introducing cognitive play for babies and the hydrotherapy centre, with integrated accessibility hoists etc, for aquatic physiotherapy. The building achieved BREEAM Excellent, and an EPC A rating.

Such facilities require large volumes, so massing was broken down by emphasising transparency and translucency throughout. Clear wayfinding, spaces to congregate, and an open view all contribute to the building's civic presence and sense of place. In the architect's words, the building aims to ‘provide a modern gateway to the city that honours [its] rich history and cultural significance’.

So, in answer to Kucharek's opening question, are such buildings the ‘evolutionary endpoint of the “big shed” ideology originally fetishised by Big Tech and ultimately killed by Digital Tech, leading to the reductio ad absurdum of architecture?’ No, not these. ●

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Individual homes can be eco-friendly too

Anyone who considers the one-off house to be simply the indulgent end of design should think again – we round up some rich examples of sustainable, stylish and innovative properties

One-of-a-kind homes are perennially interesting for architects, as RIBA Journal managing editor Isabelle Priest, witnesses regularly. So no wonder that PiP’s webinar, bringing together a range of award-winning projects and product insights from sponsors Maxlight and Tile of Spain, was a popular one.

On a sombre note, ‘Britain has some of the oldest and lowest-performing housing stock in Europe,’ says Priest, but these case studies of one off houses illustrate how, with the right client-architect partnership, sustainable design can be done well and creatively.

Marion Baeli, partner at Studio PDP, is author of Residential Retrofit (RIBA, 2023) which scrutinises materials, costs, post-occupancy evaluations (POEs) and other metrics of 20 bespoke homes of different construction types across the UK. In partnership with CIBSE, the book looks back to her previous publication, Retrofit for the Future (RIBA, 2014), investigating whether these projects succeeded. Researchers posed questions about energy use, air-tightness, thermal layering, detailing, indoor air quality, MEP systems, moisture, allergens, U-values and user experience.

‘We wanted to show the industry the failings and successes’, explains Baeli, so revisiting these homes was revealing. While some sustainability best practice has evolved since these projects, Baeli draws attention to the LETI Climate Emergency Retrofit Guide for up-to-date recommendations.

Clara Pena Rubia, of sponsor Tile of Spain (the Spanish Ceramic Tile Manufacturers Association) next ran through the manufacturing process of a ceramic tile, outlining how climate-conscious production, coupled with the material properties of

There are some real learning points we can take from Japanese architecture and culture generally



ceramic, make an environmentally sound choice. She presented several case studies including the AA House by Ova Studio, with its large expanses of white tiles reflecting heat and light, and the Arcos House by La Erreria office, where interior wall and floor tiles mitigate humidity damage. In Ripoll-Tizón’s House in Puntiró, Mallorca, tiles work with the structure itself, creating a balance between tradition and industrial modernity. Ceramic tiles are shown to be thermally efficient, low toxicity, fire-safe and durable.

From Spain to Cirencester via Japan, Nicholas Lyons, founder of Lyons Architects, introduces the RIBA Award-winning home Blackbird, which is raised above a newly-made lake. Repurposed excavated materials, a submerged water-source heat pump, grey water harvesting and MVHR contribute to the eco strategy, as does the lake itself for cooling.

Deep eaves and a low profile roof are inspired by Kengo Kuma’s Water Cherry House, near Tokyo, which also nestles into its surroundings; the dark, quiet materials palette, including Kebony timber and Shou

Above Glasgow practice Ann Nisbet Studio’s sublime Cuddymoss in Ayrshire won the 2023 RIAS Andrew Doolan Best Building in Scotland Award.

Sugi Ban treated wood cladding, enables Blackbird’s architecture to recede. The black lustre of the surface lends the home its name. ‘There are some real learning points we can take from Japanese architecture and culture generally,’ rounds off Lyons, referring to the strong impact his stint there had on his design ethos.

Claire Taggart, associate at Hayhurst and Co, next discusses Green House, a



DAVID BARBOUR



KILIAN O’SULLIVAN

five-bed family home in Tottenham. Set in a conservation area, near woodland, with keen gardeners for clients, the home is a reimagining of a domestic greenhouse. Green House went on to become the RIBA’s 2023 House of the Year.

The heart of the house is a double height central space which brings light in from above (flats on both sides prevented side facing windows). Connected family, and views to the landscaped surroundings from front and back were prioritised. Meanwhile, partitions between bedrooms are studwork rather than CLT (as the rest of the structure) to enable future configurations.

Elevations are visibly greened; the front, south-facing facade gives shading and a play of sunlight through its polycarbonate panels, while bamboo planting provides privacy. Sliding panels enable the house to be completely opened or closed when needed, facilitating natural ventilation. The opposite facade is clad in agricultural roofing – lightweight and cost effective. ‘We

Above Hayhurst and Co’s simple yet stunning Green House design won the RIBA’s 2023 House of the Year Award. **Below** Lyons Architects’ Blackbird, near Cirencester, might float in the English landscape but it is decidedly Japanese in its influences.

had fun with the materials,’ says Taggart, with breeze block patio paving bought by the clients off Gumtree, and upstairs flooring in hardwearing recycled cork-rubber material. The clients made their own bath panels from recycled jesmonite. Heating is through an air source heat pump. ‘We feel fortunate to live in such a considered design,’ said the client.

Glazing supplier and sponsor Maxlight’s presentation also focused on sustainability with managing director Anthony Culmer drawing on such projects as Platform 5’s Backwater House in the Norfolk Broads and Sartfell Cottage on the Isle of Man by Foster Lomas – areas whose watery and blustery climates put Maxlight’s windows, pivot

JAMES BRITTAIN



doors and oriel windows to the test, with stylish and successful results. Maxlight uses only toughened glass to make its products particularly strong; these are also the thinnest glazing options on the market, as well as reassuringly water-tight.

Finally, Ann Nisbet discusses the multi-award winning Cuddymoss – an old agricultural building converted into a family home. The client, a bird photographer, needed a property which engaged with the ‘tactile undulating landscape’ of its surroundings, and moreover saw himself as the home’s ‘custodian’ rather than ‘owner’. Responding architecturally to this, the intervention is removable; it takes the form of a timber structure inserted inside the ruin, with the windows set back from the original openings, creating deep reveals. Steelwork is likewise exposed internally, allowing the timber insertion to be removed easily in future.

This project has garnered accolades for embracing a circular economy: all but one of the original lintels were reused and 20% of the slate on the roof was salvaged. Stone coping was taken from a nearby ruin. Dalry brick, to match the original and infill one opening, was found by the client in a fly-tipping site. One new opening was given an aluminium frame so that its ‘different language’ would be more honest.

Gaps in the walls have given homes to swallows and swifts. A ground-source heat pump was installed as well as an MVHR system and a water borehole. An additional, adjoining structure is made of naturally weathered larch to not compete with the ruin. An ‘honest, gentle take on a house’ to round off a seminar of well-considered and beautiful homes. ●

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Jon Humphreys, director at Oxfordshire and London-based Mailen Design, gives three of his specification favourites



La Pietra Compattata Tiles
La Pietra Compattata Tiles for the Domus showroom in Clerkenwell enabled a natural aesthetic while keeping sustainability and environmental responsibility front of mind. The tiles are made of waste from Italian stone quarries, using a cold pressing technique to create a new hard surface material capable of advanced technical performance. Suitable for indoor and outdoor use, the tiles' rich texture and earthy tones create an inviting, contemporary atmosphere in the showroom. Their durability and distinctive character achieve a natural yet modern feel.



Adapta Color Paint – Eternal Vivendi Collection
Redeveloping Fenwick's Newcastle flagship we used Adapta Color Paint's Eternal Vivendi Collection to bring a dynamic and transformative element to the building's canopy. The dichromatic paint in Metallic Greenprint and Eternal Matt changes appearance under different lighting conditions, allowing the store's signature green to come alive. This extraordinary paint adds a layer of visual intrigue to mirror not only Fenwick's own dynamic history but also the lively, ever-evolving nature of retail environments.



Kingspan UniQuad Translucent Cladding
UniQuad Translucent Cladding allowed us to integrate functionality with aesthetic appeal in our design for GrowLab Organics, a medical cannabis facility on the Isle of Man. The material's dual-skin gives excellent quality daylight while maintaining a sleek, modern look. Natural light enhances the experience and well-being of employees, an essential factor in our design philosophy. The translucent panels blend with the building's tone and texture by day, at night providing a distinct entrance lobby that is illuminated from within, revealing the facility's internal processes.

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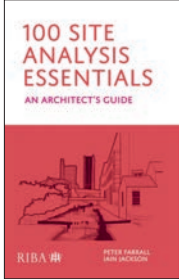
Barbara Tognini

Read up

RIBA J editor Jan-Carlos Kucharek flicks through the latest tech titles. Buy at ribabooks.com



About Render: Designing and Realising Plaster Surfaces
Annette Spiro, Hartmut Göhler, Pinar Gönül eds. Edition Detail. 378pp PB £64
This beautifully compiled book gives a full historical and technical picture of this most simple and ancient building method. Sections are broken down into renders used on different wall types, their uses all illustrated using contemporary case studies from Europe, depicted in photographs and details. Most charming of all is the pull-out poster illustrating 85 different types of plaster application, from the very finest, through to 'sculptural' thicknesses. A fascinating taxonomy of what's possible with the medium.



100 Site Analysis Essentials: An Architect's Guide.
Peter Farrall and Iain Jackson. RIBA Publishing. 258pp PB £28
The authors, both professors at the University of Liverpool School of Architecture, approach site analysis in a rigorous and thorough way. A short overview is followed by chapters on Context/ Routes/ Environment/ Groupings & Usage and Interface. These are all colour coded and, handily, tips are cross-referenced throughout, so tips are not just read in isolation. Yes, great for students, but perhaps a good aide-memoire too for the world-weary architect to remind them why they chose the subject in the first place.



Hybrid, Masonry, Timber, Concrete, Steel
Daniel Mettler, Daniel Studer & Irene von Meiss-Leuthold. Birkhäuser. 128pp HB £37
On the face of it, this is a book of 25 contemporary Swiss projects which all showcase the five construction materials in the title – but with no contents page you might struggle to realise that. Inside, the green of the cover repeats as a wash on a photo spread to introduce each project and its architect, followed by a lovely 1:15 isometric of that building's fabric. No description of any of the materials beyond this sizeable line drawing; plus three short essays at the back, set in large font and, er... that's it. Seductive layout on gorgeous, glossy paper, but perhaps a triumph of form over content.

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