

RIBA J

PIP

Products in Practice Sep/Oct 2020

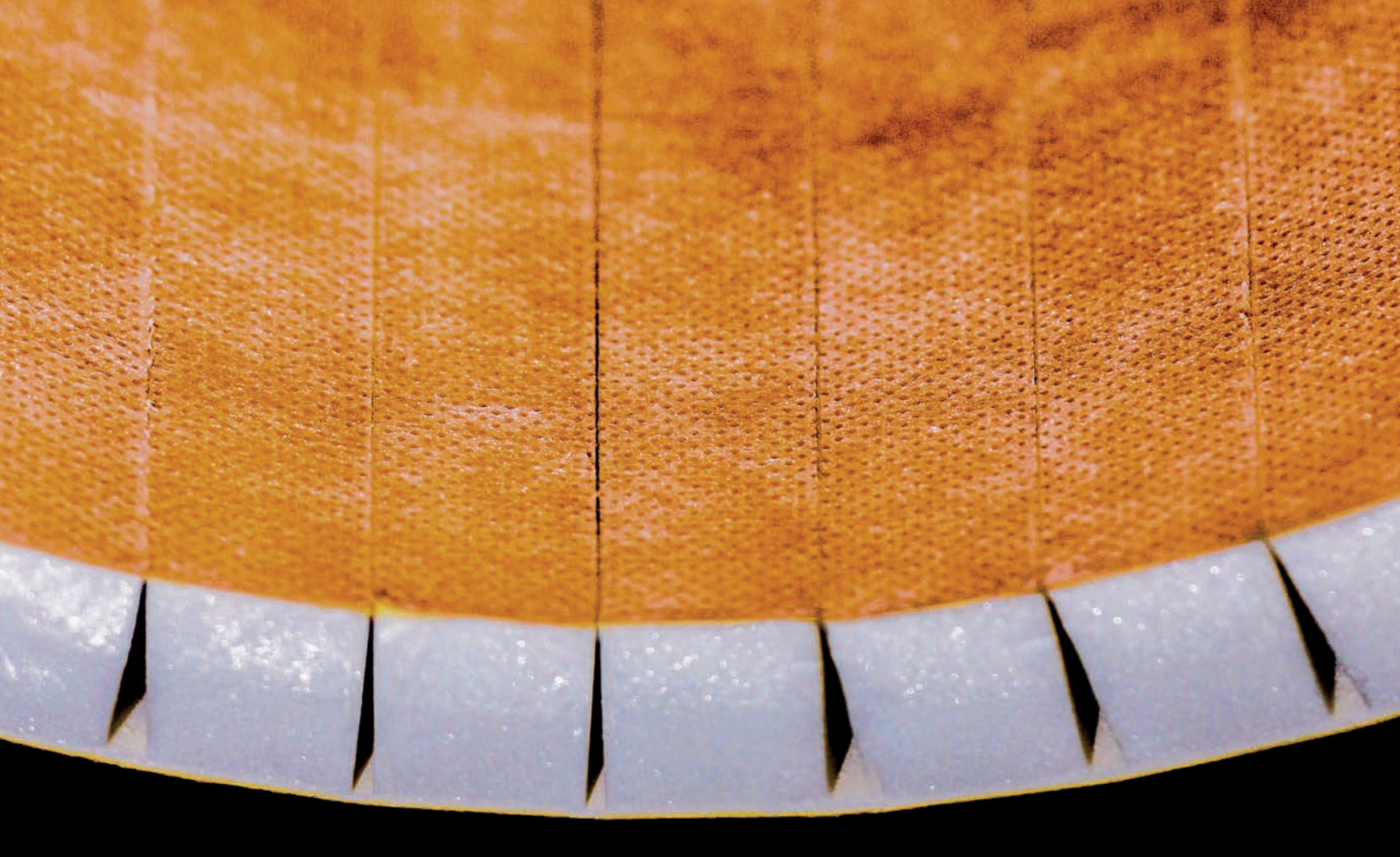
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There’s been what seems...



... a string of wake-up calls over the last few months. On top of Covid-19, Black Lives Matter and a looming global recession, lost in the sheets of rain that fell on the UK over June and July was the fact that on June 20, the Siberian town of Verkhoyansk experienced a day time high of 38°C. That is a grim record for inside the Arctic Circle. The EU’s Copernicus Climate Change Service registered Arctic Siberia’s May temperatures as 10° higher than average, increasing the likelihood of permafrost melt at the poles and wildfires everywhere else.

So the RIBA’s September issue, devoted to

sustainability, is prescient and necessary; and in support, PiP is showcasing projects with different outlooks on the subject. Turner.Works’ Mountview Academy (p24) uses concrete to perform but binds into that the principles of ‘loose-fit and long life’. Maggie’s Leeds (p12), by the often seemingly extravagant Heatherwick Studio, not only embody sustainable principles in construction but pushes the mental health aspects of creating an oasis within an otherwise hard urban environment. And Tsuruta Architects’ wooden roof extension (p34) to a London home uses minimum material for maximum return.

Of course, these are new buildings and even if they did meet net zero carbon in construction, would still, over their lives, have to be net zero carbon operationally, so we are a long way off. Perhaps the best example of that approach would be the refurbishment and retrofit of Urmston Leisure Centre in Manchester, mentioned in our Special Report last month and reviewed in this RIBA’s. Quietly and efficiently returning an energy guzzling 1980s facility to the community as a Passivhaus exemplar, 5plus Architects is, to coin a much-used term, our unsung hero. ●

Jan-Carlos Kucharek, editor

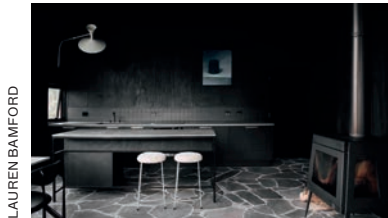


More online...
Home buyers can move walls and change the position of kitchens, living areas and bedrooms, as well as select different finishes
Stephen Cousins plays with Urban Splash’s 3D design optioneering tool: ribaj.com/townhouse



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PiP’s on Pinterest! [See the latest products on our Pinterest feed: pinterest.co.uk/productsinpractice](https://pinterest.co.uk/productsinpractice)



Fisher & Paykel 'Black' kitchen



Vintera XL9 sink from Blanco



Damian Williamson's Konami sofa for Erik Joergensen



Quickstand Eco table by Humanscale

Cover image: Maggie’s Leeds by Heatherwick Studio, photographed by Hufton + Crow

Compendium

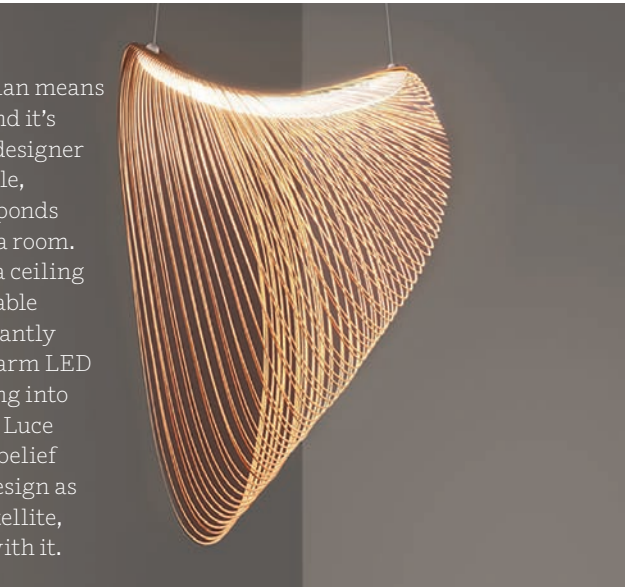


MATTHIJS VANDER BURGT

Tales you lose
Belgian artist/architect duo Gijs Van Vaerenbergh, whose huge metal Labyrinth installation in the town of Genk referenced its dead industrial past (PiP Sept/Oct 2015) has been busy conjuring up another sizeable memento mori – this time at the top of a 30m land dune in Belgium’s Hoge Mouw nature reserve near Kasterlee. Reminiscent of the famous last scene in the 1968 movie Planet of the Apes, a faceted, a 6m by 5m by 3m high cracked, metal face is appears rising out of the ground, formed of 2115, 6mm thick welded steel plates. Commissioned by the Province of Antwerp and weighing over two tonnes, the classical bust is a modern colossus that references the pre-Christian myths of this ancient landscape.

Edge off the orient

Anyone who’s experienced the deep cleaning properties of a Turkish bath will be aware of their famed abilities to get into all the corners – and maybe that was at the back of Ross Lovegrove’s mind when he came up with his Istanbul sanitaryware range. Designed for Turkish bathroom brand Vitra, the famously blobby designer naturally chose to do away with corners altogether. Originally launched at Milan’s Salon de Mobile in 2018, he’s been adding to the range over time, notably with a new vanity basin with its curious ceramic lip and fine, metallic legs and a fantastic looking loo brush that looks like a 21st century reimagining of the 1957 Russian Sputnik I satellite. But PiP’s still enjoying the look of his water-inspired floor-standing washbasin, despite the suitably eyewatering £1483 pricetag.



Not your Nikkei Average

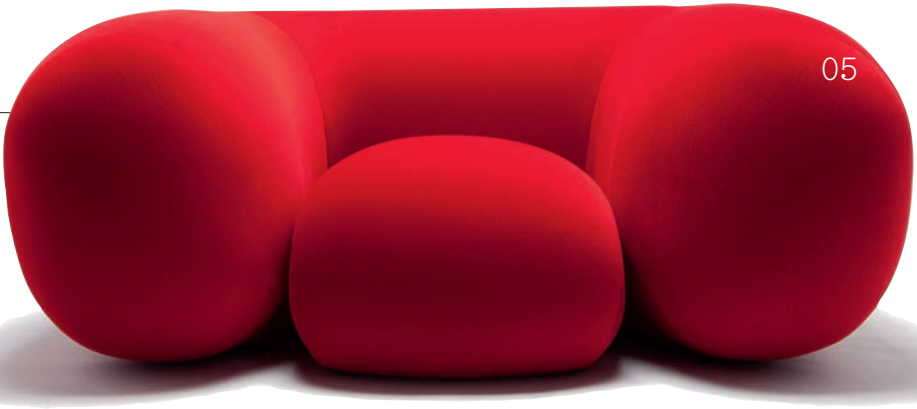
Recent events might have rather caught up with it, but it seems bookings are finally now being taken at the new The Ivy Asia restaurant in Jean Nouvel’s New Change opposite St Paul’s Cathedral – with, it seems, window views that are markedly more public



than its more private and demure celebrity relative in Soho. The venue offers flexible dining, so Style installed an artfully decorated, semi-automatic Dorma Hüppe Variflex moveable wall to allow a private room for up to 35 guests to be quickly set up. It offers a 38dB Rw acoustic integrity too, so other diners don’t have to hear drunken stockbrokers bragging about their latest deal.

Heart of darkness

Back in Belgium, Stéphane Beel Architects was commissioned for the restoration and extension of Brussels’ Afrika Museum to bring the building up-to-date and to allow from better viewing of its collections. External blinds linked back to a BMS were specified to minimise any internal clutter around the perimeter glazing while ensuring low light levels were maintained if necessary. The architect wanted the blinds to be invisible when retracted so worked with screen manufacturer Guthrie Douglas and Helioscreen Projects to integrate roller mechanisms into the facade structure. Steel cables were used to guide the blinds, and a bespoke return pulley arrangement designed to give them additional stability in high winds.



Lockdown lounge

With furloughing still in the process of being wound down, contemporary design firm Established & Sons hasn’t been sitting on its hands during lockdown but has instead been actively promoting its own angle on how you can best park yourself. Its most recent PR featured a number of designer products and possible uses – the Barbican chaise longue by Konstantin Grcic for yoga. Felix de Pass’ elemental A Bench ‘for improvised workouts’ and the Bouroullecs’ Quilt seating, brightly coloured and very plumply upholstered for... well... throwing yourself against when it all gets too much? PiP’s favourite though, is Philippe Malouin’s Mollo personal lounge, made from oodles of high-density foam. So round and large, it seems nigh-on impossible to be within two metres of anyone, you can curl up on this one and feel as safe as a baby in a bouncer.

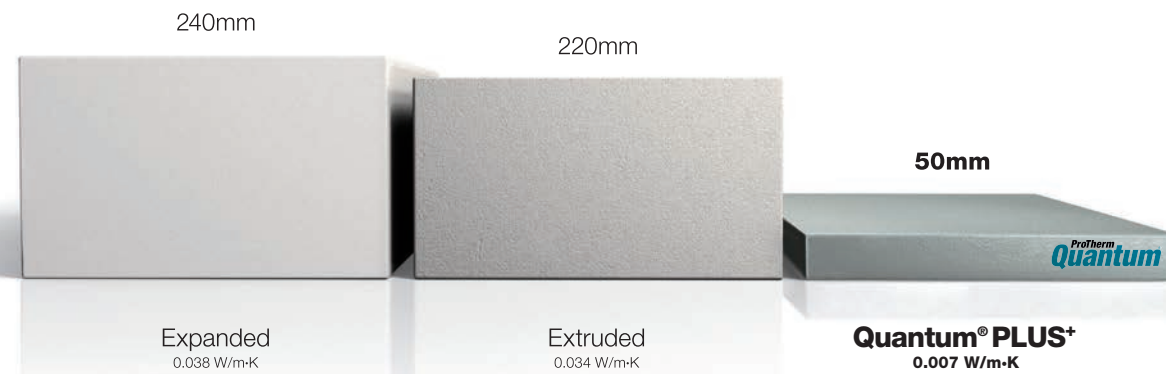


ANDREA MARTIRADONNA

A bigger splash

Given the fact that half of Hollywood seems to have headed out to the shores of Italy’s Lake Como since George and Amal Clooney rocked up, it was only a matter of time before a high-end Japanese eatery sprang up in the area to feed all those hungry little west coast mouths. Cue Moya restaurant in Mariano Comense, over 1000m² over two floors, designed by Italian architect Maurizio Lai. It’s the internal lighting that’s the star of the show here, with emerald coloured illuminated backdrops and lit glass dividers that create waterfall effects, leaving any punters still craving the delayed remake of the 1984 Splash amply compensated.

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ProTherm Quantum[®] PLUS⁺ was installed at various roof levels, careful consideration was taken to the setting out and the junction details especially at Level 8 where it followed the curvature of the façade below. In order to insulate this area, the plan layout was staggered/faceted adjacent to the curves.

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Design presentations for a Zoomed-in world



Digital presentations to communicate design have moved from printed reports to PDFs, from A1 boards to TV screens, and from pin-up crits to Zooms. Is this working and how do we improve?

I saw my first digital only crits last year at the Bartlett and AA schools. Covid-19 has accelerated the use of digital presentation. At Fathom the past few months have seen a virtual Design Review Panel presentation, six planning pre-apps and over 100 client meetings online. I've done crits at the Bartlett and three days of external examining for the University of Greenwich without meeting a soul. All these presentations have been linear – a 'slide' format usually as a PDF or PowerPoint. The outcomes were varied and I've noticed some typical pitfalls.

First, we're no longer limited by pin-up space, printing time or file size – it's pdf and go. This often makes us lazy in the edit, delivering information which is unfocused and lengthy. At Fathom we try to pull back and start afresh with each presentation, identifying key messages and establishing a strong narrative. We build a storyboard of titles and bullet

points using Word, PowerPoint's Outline View, Dropbox's Paper App or OneNote. This stops us getting lost in graphics (we love doing that). For an expert's guide, check books by Al Gore's speechwriter Nancy Duarte.

The second pitfall comes in creating and delivering the presentation. From the other side of the fence here are some key annoyances. I've had to read thousands of words of portrait formatted documents in widescreen, lines of text running the full width of the screen, waited as people scroll through thumbnails to find a drawing and read presentations surrounded by myriad menus and thumbnails – argh my eyes!

We used to get excited about beautiful paper textures and creative bindings. It's time to put that love into digital, and use all the screen real estate. Create embedded links and smart contents pages. Use speaker notes. Get savvy with PowerPoint navigation tools. Don't forget that all-important final slide – it's up for a long time.

Thirdly, once the basic information has been communicated, the design needs to be understood. To communicate the spatial aspects

we've used GIFs as a low-cost animation, but we feel that more innovation is needed using simple, reliable technology. At The Bartlett we've used the digital whiteboard Miro, which presents a 'wall' of drawings that you can all point at and zoom into – great for cross referencing drawn information. Also effective for experiencing a space is the low-cost app iPano, if you can persuade the viewer to download the app. In lieu of the physical 3D model there are also 3D viewers within Adobe Acrobat or SketchUp Viewer – clunky but something to play with.

So online presentations can and do work, but it comes down to how you communicate the story. Rebuild your work, don't just edit it. Keep it simple and don't get lost in graphics. For virtual presentations think about what your audience has to hand – generally Teams or Zoom, a laptop screen and some headphones. That's why the 'slide show' is staple and remains the place we focus our effort. The rest is nice to have. Bring back real-life presentations! ●

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Counter-Covid shopping list

PiP checks what might be flying off the shelves



Wayfinding LVT range
Amtico
We've all seen them. Random 2m distance demarcators or arrows on floors in shops fashioned from masking or hazard tape, seemingly logically guiding you around a shop in one direction but actually just confusing customers more than ever in the attempt to prevent cross-traffic. Well, help may be at hand (or foot) from LVT manufacturer Amtico, now providing a custom range of social distancing and wayfinding tiles from its Signature range. The 11 designs come in Napoli (yellow) and Shimmer Metal (grey) but are customisable, and with a thick, 1mm 'wear' layer they should be around for as long as they're needed.
amtico.com/commercial



Forearm shield for door handles
FSB
'You put your left arm in, your left arm out...' But it's no game negotiating the new normal, particularly in shops and supermarkets when pandemic paranoias can be heightened. German firm FSB is coming to the rescue with its clip-on forearm shield for push and pull handles that easily makes operation hands-free using the forearm. Made from glass-fibre reinforced polyamide, they are also easy to clean and disinfect. The forearm shield for door pulls is suitable for use with all standard tubular push/pull handles 19–35 mm in diameter and it can also be fitted to handles of angular and oval cross-section.
fsb.de/care



Personal space management solutions
SAS International
With furloughing being wound down and a return to the office on the cards SAS International is not sitting on the fence when it comes to Covid-19 and mitigating the risk of viral transmission in the workplace. Better known for its commercial ceiling offering, the firm has quickly come up with a screening range for offices that is easy to install on any desk configuration and made of durable glass and aluminium. SAS goes on to say that as all the products are 'designed and manufactured in-house in the UK, any desk size or office layout can be accommodated with bespoke solutions.'
sasint.co.uk



DoorPedL range
Selo
More Covid hokey-cokey – but here it's your left leg out – this time from commercial and high-end interior door manufacturer Selo with its space DoorPedL range. Foot plates that allow unlatched doors to be opened using just a foot have been on the market for some time, but DoorPedL's innovation also enables latched doors to be opened and closed by stepping on a footplate. With the new range formed from 3mm folded steel, the DP01 for unlatched doors comes in white, black or stainless steel, with the latched door DP02 in stainless steel only. Special colours are also available for larger orders.
doorpedl.com



ALEJANDRO ROMERO PEREZ DE TUDELA

CLT from waste wood

What: CLT from discarded timber
Where: University College London

Demolition in the UK produces around 1 million tonnes of waste timber waste a year – more than half of it solid wood. A team at University College London has been working on reusing it to make cross-laminated secondary timber (CLST), which could build up to 10,000 homes annually.

No one is doing this yet. Sited near forests, the major European CLT producers have plentiful primary sources. But while Austria has 47% forest cover, in the UK it's only 13%, so here secondary timber is more available locally at low cost. You might even be paid to take it away.

UCL's goal is to fully test and certify the product for use in line with conventional CLT. Initial lab testing showed no significant difference between the compression stiffness and strength of CLST and a control. Modelling the defects typically found in secondary timber suggested only a small effect on panel stiffness in compression and bending. Calculations into the properties of panels containing timber of significantly lesser quality found very little drop off in performance when configured correctly.

In a pilot project, floorboards were reclaimed from a 1970s housing block. As with much timber from demolished buildings, its retail value

was not of interest to salvage brokers. At the Remakery in Brixton, the boards were de-nailed, planed and ripped down – and jointed to make layers which were laminated in a hydraulic press. Working with Poplar HARCA and architects Seán and Stephen, these panels became table tops for a co-working space. This prototype was a one-off, labour intensive process; and while automation promises big efficiencies, there is little point in competing head-to-head on scale with the big manufacturers. But two alternative routes could set the product apart.

One is to drive the circular economy agenda, by maximising the amount of recovered wood that is used in the product and by designing panels for disassembly and adaptation – to extend the building's life – and for upgrade and reuse when the building is deconstructed. As well as providing negative- or low-carbon building components, the economic value of the material would be maintained at end-of use. This is of particular relevance to buildings with a known lifespan, or ones that are likely to change function over their life, and to any client with a long-term financial interest in the site.

The second route is working in a more tailored way with architects and clients who want to use CLT but who are looking for something distinct and bespoke. The uniqueness of used



COLIN ROSE



CHRISTOPHER DORRICH

Left Specimens of cross-laminated secondary timber for lab testing.
Top Waste wood at a recycling plant. The material is typically chipped and made into products like MDF or animal bedding, or incinerated for energy.
Above Prototype CLST panels in use as table tops at Poplar's Chrisp St Exchange co-working space.

building timbers offers the chance to get away from the ubiquity of spruce walls and soffits, to instead work with texture, relief and weathered finishes.

The climate change agenda can only strengthen the business case for CLST as environmental taxation rises, labour taxation falls, and production costs and regulation of whole life carbon add value to such products. Additionally, the technology underpinning CLT is getting cheaper as its use increases.

Now, CLST has to be proved in structural applications. Timber from old buildings is often of better quality than new wood, while strength grading is more complex with reclaimed timber. Researchers at Edinburgh Napier are looking into this. Investigations into mechanical performance of panels made from a mix of primary and secondary timber will be followed by research into fire performance, bonding strength and logistics of collection and fabrication.

The extent of waste generated by the construction industry offers huge possibilities. CLST presents a business case for reusing or up-cycling materials at an industrial scale: turning mixed, low-value materials into a high-quality, standardised component. It's the kind of product urgently needed to meet the demands of the construction industry, while vastly reducing its environmental impact. ●

Dr Colin Rose works at Reed Watts Architects
Read his joint research on CLST at mdpi.com/2071-1050/10/11/4118

Spoilt for choice? How to specify high performance windows

Doors and windows play a critical role in a building – from inhabitants’ wellbeing, through security, to contributing towards environmental targets. Velfac’s specification expertise can help

From meeting sustainability targets to enabling design innovation, modern windows and doors play a vital role in creating energy efficient, well ventilated buildings, filled with natural light, while setting new standards in thermal and acoustic insulation, durability and security. Expert specification is required, however, to fully maximise their potential, and to ensure full compliance with often complex building regulations, especially if curtain walling or cladding is part of the design.

Window suppliers can often provide this specification expertise. At Velfac, services such as cost consultancy and sub-contracted design, for example, help provide early budget certainty and streamline the design process.

Performance calculators are useful in first stage specification planning. Acoustic modelling, for example, can ensure the precise placement of double and triple glazing within a facade, resulting in optimal (and more cost-effective) noise control.

Window suppliers should also have calculation tools for U-values and unit weight, and be able to supply up to date test data ready for review, as required to satisfy building regulations. To meet sustainability targets, also ask for unit-specific U-values and ‘cradle to grave’ manufacturing analyses, as well as ventilation strategies designed to ensure an ideal indoor climate all year round. Velfac triple glazed units, for example, can achieve U-values as low as 0.8/m²k, and can make a significant contribution to energy efficiency.



Above
VELFAC FOR MAJOR RESIDENTIAL PROJECTS
Velfac glazing was installed at the award winning Erith Park development in south London, described by architect Broadway Malyan as a ‘transformational regeneration project’. The 622 unit development, from Orbit Homes and Wates Living Space, features four low rise apartment buildings and 140 family homes. Our composite glazing is installed across Erith Park, with large glazed units and casement doors being prominent features in the facades of both housing and apartment blocks. The glazing also brings light and style to interior spaces, helping achieve the ‘wow on a budget’ brief specified by Orbit Homes.



CRAIG AUCKLAND (2)

Left
VELFAC FOR INSPIRATIONAL EDUCATION BUILDINGS
Designed by architect BDP, the Launchpad Building provides a dedicated hub for Falmouth University’s ground-breaking postgraduate business incubation and acceleration programme, Launchpad, and also a link – via the new ‘Creative Bridge’ – to the Academy for Innovation and Research. Our glazing is installed across the whole development, with large Velfac glazed facades helping create a highly distinctive local landmark, especially at night, while also increasing daylighting throughout the open plan interior.

Below
VELFAC FOR AMBITIOUS MULTI-PLOT HOUSING
At Manor Reach in Sprowston, Norfolk Homes has created a high quality, Scandinavian-inspired residential development of 164 homes. Velfac composite glazing is a key feature of every home, ranging from small punch-hole units to full-height glazed window walls. ‘We really like the slim frame design, and the fact that Velfac can deliver some of the largest functioning windows on the market,’ says Lea Morgan, buyer at Norfolk Homes. ‘The amount of daylight the windows bring into every room definitely adds value to the properties.’

Specification tools from VELFAC
As an expert in glazing, Velfac can provide the support you need at every specification stage – from initial design ideas through to post-installation.

Enhanced online product database
Redesigned following extensive customer feedback, our new product database offers:

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- Swifter access to our product and technical data, saving time and supporting workflows
- An extensive range of project images for every product, providing both information and inspiration
- Tailored database versions for commercial and housebuilding projects, and for single dwellings.

Expert consultancy
Velfac 360° consultancy service draws on more than 25 years’ experience of high performance window design, manufacture and installation. We provide expertise in every aspect of the specification process, including performance analyses, sustainability, cost planning and BIM consultancy.



JOAKIM BÖRÉN

Improved in-house specification skills with RIBA-accredited Velfac CPD

- Choose from range of formats and subjects, including the impact on specification of third party insurance requirements, and the relationship between specification and building regulations.
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Maggies Centre, Harehills, Leeds

The last patch of greenery on a tight urban site in Leeds, hemmed in by two roads and several large buildings, including a multi-storey car park, is far from the ideal site for a cancer support centre devoted to calm and healing.

Undaunted by the drab location and inspired by the brief to create 'a home that people wouldn't dare build for themselves', Heatherwick Studio doubled down to create a nature-inspired building with a sweeping exposed timber structure immersed in lush British woodland greenery covering roofs and terraces.

The 462m² centre, located within the campus of St James's University Hospital – also known locally as Jimmy's – is the charity's 26th centre in the UK and the first health-care project completed by the practice.

It will provide an anticipated 110 visitors a day, including people with cancer, their friends and families, with free practical and emotional support as they come to terms with the disease.

Rather than dig into the steeply-sloping site, the building follows the natural contours, with three pavilion-type structures resembling garden planters stepping down in levels. These surround an open plan area comprising a kitchen, library and exercise room connected by stairs.

The gardens overlap as they descend and overhang to shelter communal areas; at the highest point visitors have views of the Yorkshire Dales to create a positive link with the world outside. The planting is based on the British woodland, with hardy native species that support the area's existing biodiversity.

Nick Ling, technical design lead for the project at Heatherwick Studio, tells RIBA: 'The hospital really valued the small patch of grass that the site takes over so, for the good of the entire hospital and the patients and staff who look out onto it, we wanted to reinstate greenery, lift the gardens



Built on a hospital's valued patch of grass, Maggie's Leeds is designed as a series of outsize garden 'planters' with structural glass walls to make the most of the leafy setting

Words: Stephen Cousins Photographs: Hufton + Crow



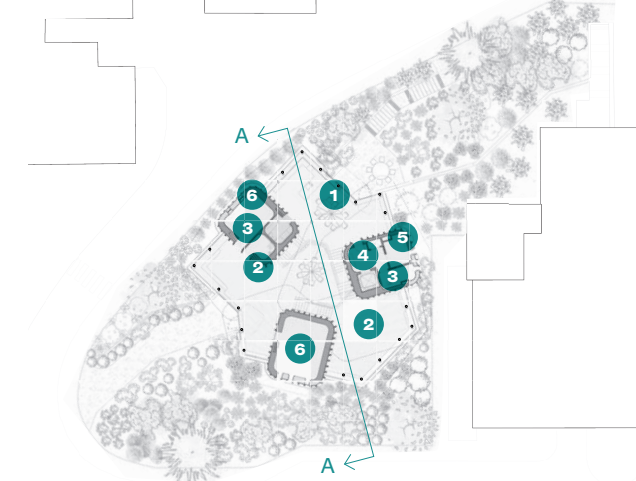
Above Three timber pavilions with planter roofs running up the site now offer views out to the neighbourhood, city and the Dales beyond.
Left A valued patch of green space on the St James University Hospital site has been reborn as a 'wilded' Maggie's.

Below Timber fins supporting the glulam pavilion roof above are each unique to their specific loading. Recessed deflection heads at roof edges allow the building to allow the structure to flex without compromising the structural glazing.

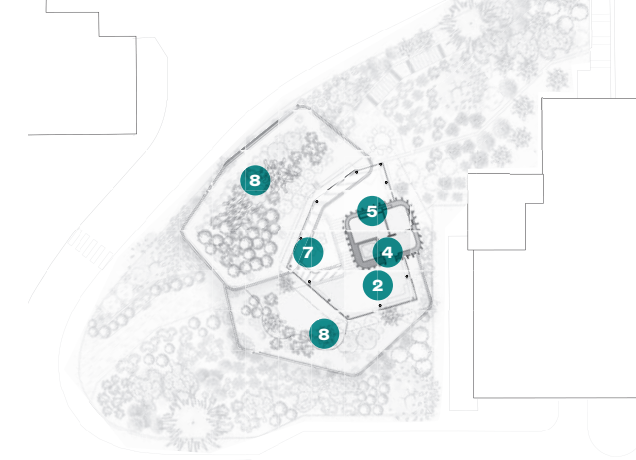
Below right Hidden clerestory windows allow daylight to illuminate the space in subtle and surprising ways.



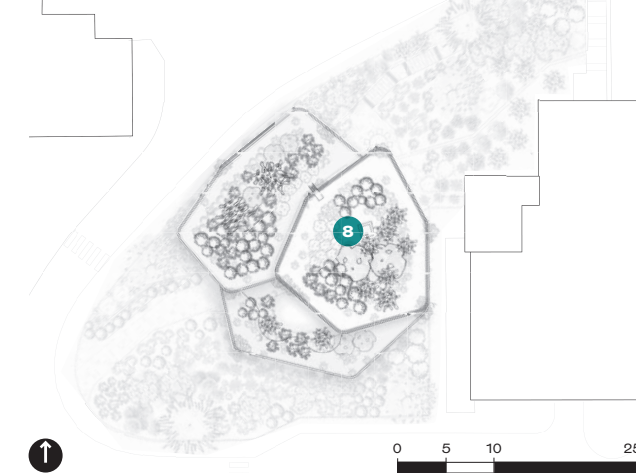
Ground floor plan



Mezzanine floor plan

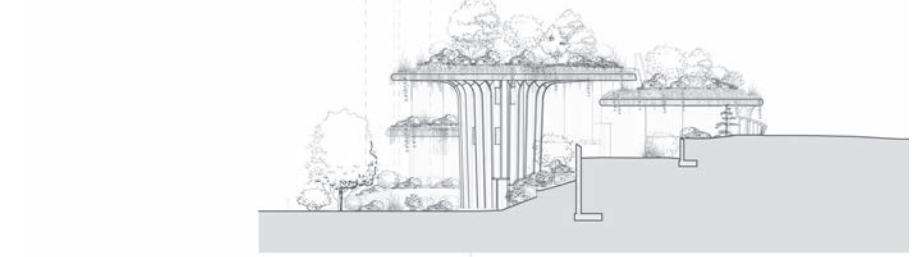


Roof plan

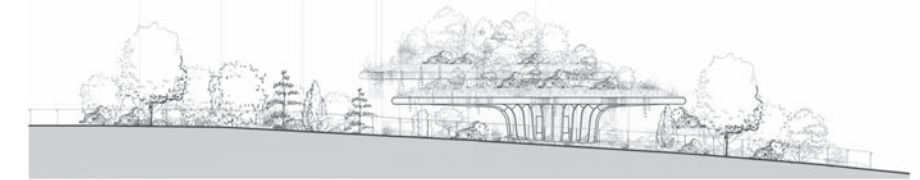


- 1 Entrance/ kitchen social space
- 2 Open plan social area
- 3 WC
- 4 Roof planting
- 5 Office
- 6 Quiet meeting room
- 7 Lightwell
- 8 Lobby to lift

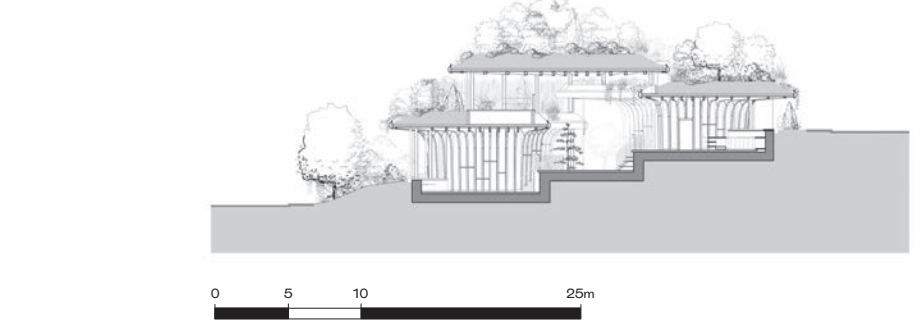
South elevation



East elevation



Long section AA



up and improve on what they had before.’

A focus on ‘healthy’ materials conducive to patient wellbeing and sustainable performance enabled the Centre to exceed Part L requirements by around 12%, even though environmental targets were not included in the brief.

Energy consumption is based on the needs of a domestic home, using underfloor heating and passive energy conservation techniques such as thermal mass and insulation in the built-up roof.

Cross-laminated timber (CLT) buildings have become commonplace in the UK, but what sets Maggie’s Leeds apart is the sheer variety of engineered timber construction on display.

The superstructure is a sustainably-sourced spruce system manufactured in Switzerland and fixed together on site in just eight weeks. The walls of the planters provide stability and comprise 100% stressed skin timber with timber studs and a plywood exterior. A simple lime plaster finish allows the walls to breathe and encourages natural ventilation.

A series of glulam fins sprout from the planters to provide support for the CLT roof decks. Each fin has a completely different profile, shape and sized to handle varying loads, some are 100mm or 150mm wide, larger transfer fins are sized 200mm to deal with more significant weight from columns above.

‘It is a very finely-tuned engineering solution that we worked up closely with our engineers and the timber fabricator to achieve,’ explains Ling.

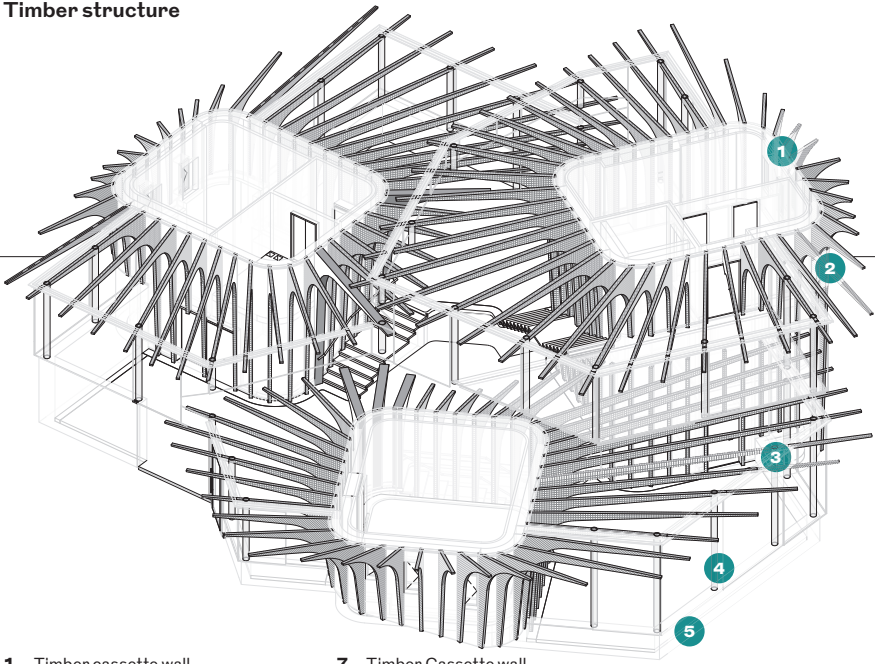
Circular columns in the facade were initially designed in steel, but the timber specialist developed a laminated veneer lumber (LVL) alternative with services running through a gap in the centre. The solution achieved the same diameter as steel, at a reduced cost, while the ‘curved cuts around the veneers produced a lovely texture’, says Ling.

With a strong emphasis on the innovative wood structure and planting, the glazed facade was conceived as a recessive element of the project, intended to accentuate both.

Frameless structural glazing was developed in collaboration with specialist Inspiring Projects Involving Glass (IPIG), which incorporates large, thin frame sliding doors to open up the facade and encourage natural ventilation.

The structural glass is supported on the

Timber structure



- 1 Timber cassette wall

2 Glulam timber fin

3 Glazing channel

4 Engineered timber column

5 Concrete upstand

6 Void former insulation
- 7 Timber Cassette wall

8 CLT Slab

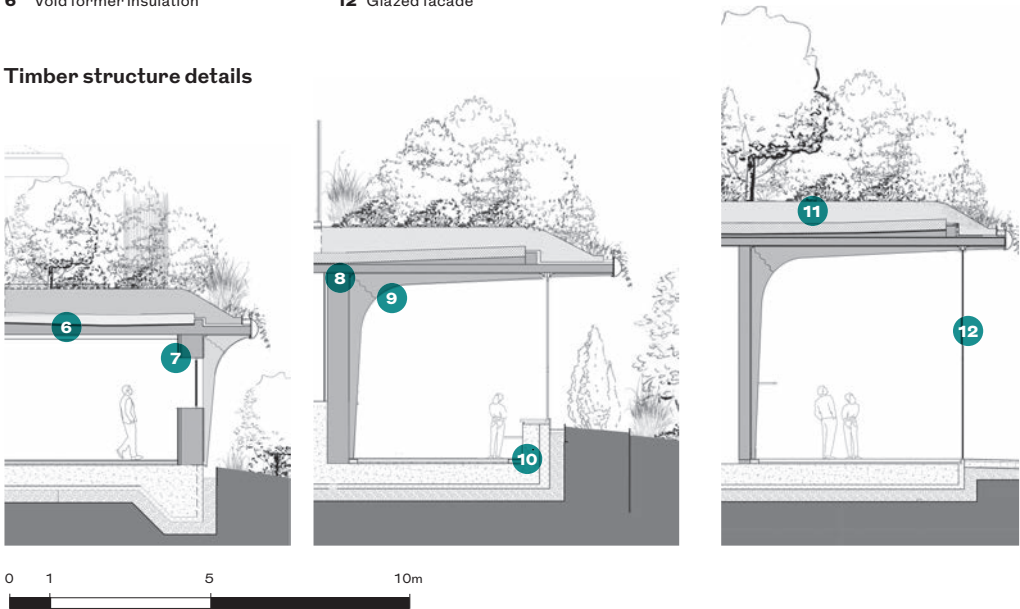
9 Glulam Timber fin

10 Concrete upstand

11 Lightweight aggregate soil

12 Glazed facade

Timber structure details



With a strong emphasis on the innovative wood structure and planting, the glazed facade was conceived as a recessive element of the project

concrete raft foundation and held at the top in a recessed deflection head channel within the CLT deck. This allows the timber structure to flex under live loads without affecting the glass. The largest of the panels are 3.1m high by 2.8m wide.

The system doesn’t tie into the LVL columns in the facade, which only support the timber beams and roof deck. The same structural glazing system was used to create a clerestory over the central kitchen space, says Ling: ‘The multi-storey car park puts the Centre in shade a lot of the time, so we felt it was very important to make sure any sunlight hitting the site could get into the space, warm it up and give



people moments where they feel at home.’ More traditional aluminium tilt and turn windows are installed in the walls of the three planters.

Heatherwick Studio wanted Maggie’s Leeds to provide respite from a clinical hospital environment and therefore focused on a homely feel with natural and tactile materials and soft lighting.

Window sills and shelves can be filled with visitors’ objects and possessions, some are positioned across the tallest glazing panels to conceal transoms, which had the additional benefit of eradicating the need for manifestation safety stickers.

‘Things you touch in the building had to feel

Above The spatial quality feels almost proto-modern; like Victor Horta’s Art Nouveau.

warm – we spent a lot of time sculpting the profile of the timber handrails for the stairs so they feel nice to run your hand along,’ says Ling. ‘We didn’t want the accessible toilet to look institutional so all the grab rails are timber-lined.’

A plan to use timber pull handles on the other internal doors was abandoned due to ‘technical issues’ with lamination and perceived maintenance problems, so instead steel lined

handles from Allgood were specified.

The front entrance to the Centre has psychological significance as a threshold beyond which an individual might begin to accept a cancer diagnosis. To make the door less intimidating to newcomers, it is positioned to the side under a lower roof, a nearby bench gives visitors an opportunity to pause and reflect before entering.

The planar glass of the entrance door is juxtaposed against a rough bronze handle cast to match a branch taken from one of the plants on the roof. It’s another soulful and welcoming touch to bring comfort to visitors who may face a difficult and stressful journey ahead. ●

Specified

DAPPLE PHOTOGRAPHY



PiP specifieds are compiled from supplied company press releases



1
Side-sliding red cedar garage door
Rundrum Meir

‘When I heard I was going to be a Rundrum garage door, I was over the moon! Mum always told me growing up as a little Red Cedar I could be anything I set my heart on, and for a long time my dream was to be a beehive. But now I’ll be married to extruded aluminium running gear, and insulated – and even impregnated with an environmentally friendly base coat to guard against moisture! I can’t tell you what this opportunity means to me. I’m going to give this 110%.’
rundumgaragedoors.co.uk/

2
Bespoke door handles
Samuel Heath

The unquiet ghost of Richard Seifert stalks the corridors of Centre Point in search of souls to compliment his work. It has been a lonely few decades. But since the Mather/Conran residential conversion started in 2015, ‘blithe Seifert’ has enjoyed himself more than even that time he was lampooned in Private Eye. His latest ruse in the restless tawl for applause is to adopt a Brummie accent and introduce himself as ‘Samuel Heath, foundryman’. Doors slam, wardrobes rattle, then comes the strangled cry: ‘Wharrayathinko me coostom andles, chook? Bostin int thay?’
samuel-heath.com

3
Centre pivot roof window
Keylight

SECURE COMMUNICATION
Cpl Bob Bobbins, UK Special Air Service. 07:17 20/8/20.
Regret to inform Operation Kipling aborted 00:46 20/8/20. Location co-ordinates denote private residence Mr & Mrs Ball. Target sighted on cooling rack beneath Keylight brand roof windows. These sealed w clever integral expanding foam thermal collars and insect filters. Trickle vents mean rarely opened so chopper drop through three panes glass required; Health & Safety regs preclude unless liberating threatened UK Nationals. Cream horns/Bakewell fingers possible. Await direction.
keyliteroofwindows.com/

4
SPW windows and doors
Senior Architectural Systems

It was God’s design, my child, that the chapel neighbouring this former school should have been destroyed in the Blitz. It was also God’s design that the school should fall into dereliction and therefore stand ready until required by God to provide a new Ecumenical Hub for our Sheffield flock. It was, however, Senior Architectural Systems’ design that achieved SDS certification for the thermally-broken SPW600e windows and SPW501 aluminium doors we installed to keep the northern weather and the godless riff-raff out. My child.
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Covid-19 lessons feed hospitals rethink

As the NHS moves to stress prevention rather than cure, its buildings must also start to pre-empt the future by designing in resilience

Words: Josephine Smit

Last September Boris Johnson promised 40 new hospitals in England under the government's new health infrastructure plan. The first six hospital builds, from Whipps Cross in Leytonstone to Leeds, were awarded £2.8 billion, while 21 more won seed funding to develop their business case. But within months, project teams were building 10 new hospitals across the UK – temporary critical care facilities created in existing buildings for the pandemic response. Nightingale hospitals and the many adaptations, improvements and changes made to healthcare services and buildings over the past year have prompted questions for both the sector and government. Facilities already having to meet complex and fast-evolving technical and medical needs, cater for diverse patient and user groups, and be cost and energy efficient, must now take on Covid-19 requirements. Looking further ahead, this experience has raised questions about the resilience of the healthcare estate and its service models, how facilities can be built and adapted faster and how they can better cater for patients, staff and other users. The post-Covid sector may have to change more fundamentally but recent project experience and practices from other sectors and nations could already help point the way ahead.

The human factor
While hospital treatments rely on advanced technology, it is people who define the sector and who were applauded during lockdown. Patients, carers, clinicians and visiting loved ones all have their own needs and the pandemic highlighted how they can come under pressure; the essential closure of facilities to visitors was one example.

The Prince & Princess of Wales Hospice in



HUFTON + CROW

Glasgow maintained visits through lockdown. 'All patient rooms have access from the ground floor, with each room having a garden space,' explains Paul Bell, partner at Ryder Architecture, the hospice's architect. This is the only UK facility to have been designed to the Sengetun model of care, pioneered in Norway's St Olav's Hospital in Trondheim. The model relies on creating a supportive, non-institutional environment with small courtyard clusters of bedrooms giving patients a sense of place and community while still allowing easy staff monitoring.

The hospice, in Bellahouston Park, has two clusters of six and 10 beds, support facilities and day services in a series of villas with no conventional institutional corridors. 'Designing out corridors means you create villas that are well proportioned and ventilated,' says Bell. Although based on an established model, the client and project team carried out research to produce a people-focused building that includes family bedrooms and large kitchens so families can be together. 'The lead architect spent time at a hospice, including in a bed, to experience the environment. The client used the time taken to secure funding for the project to visit every hospice in the country,' Bell explains. 'Often projects are driven by programme, but we had the luxury of taking time to understand the user group so we could create a more collaborative design.'

A similar focus on people and collaboration informed the development of the 350-bedroom Dumfries and Galloway Royal Infirmary, designed by Ryder in collaboration with NBBJ. The project was undertaken under Scotland's version of PPP, the non-profit distribution (NPD) model, and when Ryder came on board already had a reference design with outline planning



KEITH HUNTER

permission. The proposed design combined a diagnostic and treatment block, inpatient pavilions and a women's and children's hospital. The architect refined that, reducing a long arc of a corridor and relocating the women's and children's hospital. 'It allowed us to bring the broader landscape into the site,' says Bell. Views out enable visitors to easily find their way around and look onto landscaped surroundings that have made this facility become familiarly known as the garden hospital.

The hospital was delivered by a consortium including Laing O'Rourke using modern methods of construction, such as prefabricated bathroom modules and external wall panels incorporating windows with interstitial blinds. 'We spent time with the contractor and supply

GPs who would typically see patients in consulting rooms are now using dedicated telephony suites

Left The Manser Practice's Macmillan Cancer Centre in Chesterfield brings the outside in with floor to ceiling glazing in its treatment rooms.
Below left Glasgow's Prince and Princess of Wales hospice by Ryder Architecture is the UK's first example of the Sengetun model.

chain to design for that,' says Bell. 'It allowed us to deliver the project ahead of its contract programme and helped NHS Dumfries and Galloway's transition to its new estate.' Such innovation is increasingly common in the sector, but Bell questions whether a rethink of the hospital itself is needed. 'We are still very reliant on the acute hospital setting and hospitals are complex and expensive buildings,' he says. 'I wonder if we can re-evaluate what needs to go into an acute hospital and take services closer to where people are living and working, perhaps helping to regenerate the high street.'

Reshaping services
Some clients have been considering significantly reshaping services, says Guy Barlow, joint managing director at The Manser Practice. That has resulted in innovations like its urgent care village design for Chesterfield Royal Hospital, a re-imagining of a hospital emergency department that is being created through redevelopment and extension of the existing facility. The planned approach will see patients streamed on arrival, but rather than move to other departments they will remain in the village where specialist services will be on hand in a more integrated care service – more flexible and better equipped to respond to surges in demand, including a pandemic. 'The provider will have to reconfigure its whole service, with the building there to support activities,' says Barlow. 'It's some of the most fundamental work we've seen.'

The architect began working in healthcare more than a decade ago when a client seeking a fresh approach was attracted by its hospitality expertise. Since then it has brought that expertise to projects including the NGS Macmillan Unit in Chesterfield, a new cancer unit and Macmillan support centre. As well as conference suite and office space, the facility has an open plan treatment area with floor-to-ceiling glazing whose design could grace a hotel spa. Barlow says the healthcare sector could go further and create hotels, as Scandinavia does, to accommodate patients having treatments such as chemotherapy, generate income and release precious hospital bed capacity. 'The opportunity is there to reshape the hospital and there are a lot of business models out there. But it requires a leap of faith to make the change,' he adds.

Covid may provide the push needed, and is



PAUL MCMULLIN



JACK HOBHOUSE

already prompting a rethink in outpatient departments, explains Barlow. 'At the peak of the pandemic response 80% of a hospital's outpatient consultations were carried out virtually, and it is thought that 50% will be done virtually in the future. So hospitals are now looking at what that means for the physical facility and what the outpatient department of the future will be.'

Future flexible
Hawkins\Brown's 2019 refurbishment and extension of a GP's surgery in leafy Sawbridge-worth, Hertfordshire, proved prescient in including telephony suites for online consultation alongside face-to-face consulting rooms. 'The surgery was a nice safe place to come to, but we looked at the longer term,' says Ewan Graham, associate director at the practice. 'The project was driven by a tight budget and was fairly agile so we provided just enough consulting rooms. The space worked well through Covid because GPs who would typically be seeing patients in consulting rooms are now using dedicated telephony suites.'

While telehealth was already in the sector's sights, future technologies and treatments are harder to predict, making flexibility a growing priority for healthcare settings. The upcoming centre for the Institute of Neurology, UK Dementia Research and University College London Hospitals NHS Foundation Trust's neurological department near London's King's

Shell-and-core might be common in commercial construction, but it remains rare in healthcare

Left Ryder and NBBJ's Dumfries and Galloway Royal Infirmary used MMC to be delivered ahead of programme.
Below left At Hawkins\Brown's Central Surgery in Sawbridgeworth, face to face consultation has been augmented with telephony suites.

Cross will combine research and care, having laboratory space and an outpatients' department with six MRI scanners. The architect's design allows space to be adapted and reconfigured as research translates to treatment.

A new project at Guy's & St Thomas' NHS Foundation Trust's Evelina London Children's Hospital will go further. The planned Triangle development will be a generic shell-and-core building to allow flexibility on fit-out, with Hawkins\Brown working on the former and NBBJ the latter. 'If it were designed for a very specific business case, it may not stand the test of a decade and Covid has underlined that,' says Graham. 'The hospital's Hopkins building was completed in the early 2000s and is already not big enough. The estate has to be able to flex its muscles.' The approach makes the most of a highly constrained urban context, where a new building has to be slotted into a tight triangular site within sight of the Houses of Parliament.

Shell-and-core might be common in commercial construction, but it remains rare in healthcare because of the complexity of its buildings. 'We're working within reasonable parameters,' explains Graham. 'We're designing the building to support around 50% of the space for high-tech requirements (operating theatres, scanning suites, diagnostics and lab space) and 50% for medium-tech (consulting rooms, inpatient wards and support space). The building will have structural zones and pathways designed-in so that it will be possible to upgrade an area from medium- to high-tech.'

Covid has not changed the project brief, but it has added impetus, says Graham. 'It has cemented the brief in everybody's mind and opened the door to the hospital's potential to drive on with innovation, like having autonomous guided vehicles to transport waste around the hospital.' It may also open a door for the construction industry, he says. 'There has been an amazing ability to adapt in healthcare – changes that may have taken three or four years happened overnight. Healthcare is now on the government's radar. There will be the opportunity to take lessons from commercial construction in consolidation, facilities management and construction. There is real scope for the pandemic to provide intellectual leverage on what a revitalised estate might look like'. This could be a seminal moment. ●

Innovation and political caution face housing boom

The government has put housing centre-stage in its efforts to combat post-Covid recession. As this webinar highlighted, there are plenty of issues and ideas to consider

Words: Ruth Slavid



As we start coming out of lockdown, many of us have been thinking a great deal about our homes, having spent more time there than expected. So it was apposite that the RIBA Pip webinar on 1 July, in association with Kingspan Insulation, focused on housing and residential development.

Topics discussed included a batch of fascinating projects and a financial model to show the actual returns on increasing internal space. All these were relevant but the most topical element of all was an interview that Helen Castle, publishing director of RIBA Journal, carried out with Julia Park, head of housing research at Levitt Bernstein.

Speaking just a day after Boris Johnson's 'Build, Build, Build' announcement as a way of

helping the country out of recession, Park was not optimistic.

'There is no doubt that we need more housing,' she said. 'That's been clear for many many years. And no doubt that will need government investment.' But, she warned, 'We have to start building the right type of housing – housing that is good for people of all ages and good for the planet. My main worry is that the commitment to speed feels much larger than any commitment to quality or longevity. There's also an underlying very explicit commitment to more deregulation. I really don't think that is the answer, particularly in a sector that is dominated by private developers.'

She cited the quality problems of many

office-to-residential developments that took place under permitted development rights (PDR) and said that it would be preferable to see the long-awaited review into the quality of homes before going ahead.

Park was also wary about the potential for converting shops into homes. She pointed out that many front directly onto narrow streets, and are deep with little light at the back.

'Architects are incredibly important,' she said. 'We add huge social value as well as financial value. But often we are not given the opportunity to do our best work.' But she added that developers, however lax the regulations, will find they still need architects if their homes are to be zero carbon. 'It begins right at the start of the project and you have to keep that rigour going right through the project to where you put the letterbox,' Park said. 'It's absolutely vital that they use good designers to ensure safe and delightful outcomes.'

David Ogunmuyiwa, partner in Architecture Doing Place, showed several of his projects for infill sites in central London. He is keen to make social housing better than much of it is at present. His understanding comes from the fact that before training as an architect he was a social housing officer. In addition, 'I grew up in social housing,' he said. 'What you get at the end of it if you are careful is a good citizen. You get a poster child of good housing like me.'

His projects look not just at unusual materials, such as the use of rammed earth for a city centre building, but at circulation and ways of creating safe and open spaces. He is reinventing the idea of deck access, but with small numbers of apartments coming off a single stair. And the communities with whom he is working include a group of travellers. 'I am really fascinated because this is a marginalised group of Londoners who also have an issue with lack of housing,' he said. 'It's an opportunity for us to learn as well.'

Kate McGechan, an associate at Haverstock, led the audience into the nitty-gritty of a single project, Linden Farm supported living for

Architects are incredibly important, and add huge social as well as financial value. But often we are not given the opportunity to do our best work



Left One of the kitchens in Haverstock's Linden Farm supported living development.

young adults with autism. 'When we design for disability we often come up with a better solution than designing for the "norm",' she said. This project, with its attention to every detail, demonstrated exactly that.

Many of the residents of the 10 homes are non-verbal; they have extreme sensory difficulties and wear incontinence products. Several also have pica – a tendency to eat non-food items.

The complex, at Old Ford in Surrey, consists of five one-person cottages, a two-bed and a three-bed home. In addition there is a communal building which contains a sensory treatment room and staff accommodation.

The main challenge, McGechan said, was, 'How do you create a homely environment with a brief for robustness, durability and cleanability?' She has tackled this by, for example, paying careful attention to the junctions of the CLT panels which provide much of the homely, light feel, and by meticulous kitchen planning. Questions from the audience were largely about details and McGechan answered them in a way that showed the degree of thought that had gone into every part of the project.

The final speaker was Karen Jones, residential development manager at Kingspan.

Her company commissioned Currie & Brown to quantify the financial benefits of using Kingspan's Kooltherm phenolic insulation. This is about half as thick as mineral wool for the same thermal performance. The thorough studies show that although the material is slightly more expensive, the increased internal floor area always translates into a significant return on investment. As insulation standards continue to rise, the benefits should become ever more significant.

Our housing market may, yet again, be in flux, but at least there are plenty of thoughtful and talented people keen to give us the best solutions possible. ●

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Mountview Academy, Peckham, London



Concrete proved a critical choice for the main structure of this performing arts academy, both containing noise and reducing vibration from the dance studios

Words: Pamela Buxton Photographs: Tim Crocker

'Acoustics were a major consideration from day one,' says Turner Works' Carl Turner of Mountview Academy, a £22.5 million new performing arts school in Peckham, south London. Shortlisted for an RIBA London 2020 Award, the Academy provides 10,365m² of teaching, rehearsal and performance facilities adjacent next to Will Alsop's 2000 Stirling Prize-winning Peckham Library.

Working with theatre consultants and acoustician Charcoalblue, Turner Works certainly had an acoustic challenge on its hands. Site-wise, the team had to contend with street noise from its busy location in the centre of Peckham, but was also mindful of not irritating the Academy's neighbouring residents.

In terms of programme, the building needed to accommodate a diverse mix of uses with all the acoustic complexities of adjacencies that these entailed – acoustic clash was a key concern as the configuration of accommodation was moved around during the design.

Arranged in two interlocking Studio and Theatre blocks, the Academy includes 21 studios for dance and drama, recording suites, offices, a café/restaurant, and a 200-seat main theatre and scenery workshop. Added to this mix is the noise and energy of some 400 performing arts students as they circulate and hang out in the main atrium. 'It's an incredible noisy showcase for the performing arts,' says Turner.

And on top of all that, both budget and programme were exceedingly tight. At £2210/m², the budget was reckoned by Turner to be 'about half' what you'd expect for a typical performance building. In addition, the project took just three years from start to finish, including 18 months on site, despite several redesigns

including one in response to safety concerns following the Grenfell fire.

'One of the challenges we faced was finding a balance between the very tight budget, stringent acoustic requirements and a very fast build programme,' says Turner.

The pragmatic solution was to provide a sensible base level of acoustic performance for each space, on the understanding that as the building was occupied, some 'hot spots' might emerge that would need remediating.

The choice of concrete over CLT for the main structure was fundamental to achieving the acoustic performance required for such a density of sound-sensitive spaces. Concrete provided not only sufficient thermal mass, but also the necessary stiffness to dampen movement – a particularly important consideration given the inclusion of the many dance studios at the Academy.

Another key design factor was that the building was naturally ventilated. In the Corten-clad studio block, air is drawn through the studio via external louvres in the walls, and out into the atrium. This operates as a stack effect, drawing air up and out through louvres located on the sides of the roof light lantern.

Stiffness and space

According to Charcoalblue acoustics principal Byron Harrison, the two priorities for the acoustics were a stiff structure and the right spatial arrangement.

'Our first thought was to understand where there's dance, because the impact of that movement has the potential to transmit vibration through the whole building,' he says.

Dance spaces were located at first and



Opposite Robust materials of concrete, brick and Corten steel on the entrance elevation intimate the performance requirements of the spaces within.

Left The new 10,000m² academy nestles in behind Will Alsop's prize-winning Peckham Library.



Left The main atrium beyond the reception is big and attenuated enough to allow 400 students to move and socialise between classes.

Right To deal with vibration, dance spaces were located on the first and second floors where beam spans were shortest.

Below right The main reception area is simple and spacious, allowing plenty of room for groups while dealing with the associated noise levels.

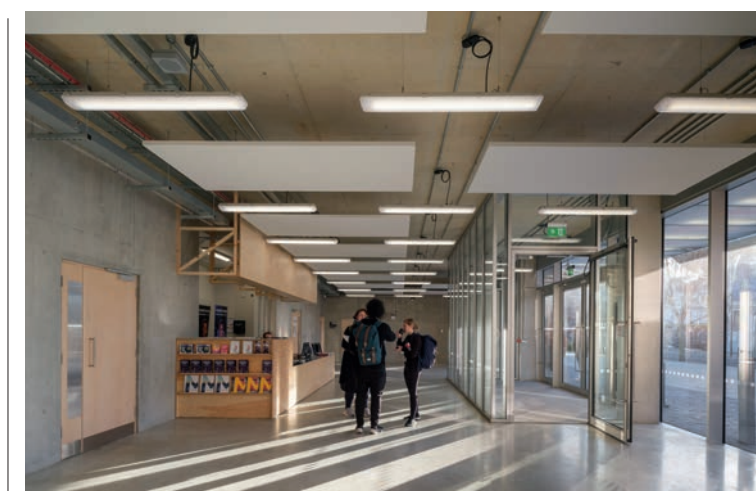


second floor level on the side of the building where spans were shorter. This gave a stiffer construction and care was taken not to place them above acting or tv studios. To further avoid movement, the dance studios have floating floors with Sylomer vibration isolation pads from Total Vibration Solutions. These provide a resilient layer and decouple the floor screed from the slab. This discontinuous floor construction also improves acoustic performance to the next door studio by reducing the potential for flanking transmission through the floor.

The strategy for the studio louvres was crucial to the acoustic success of the project. Sufficient acoustic insulation to the exterior was needed while maintaining air flow through the louvres.

There are two external louvres per studio. Charcoalblue and Turner Works collaborated with manufacturer Mach Acoustic on achieving the optimum solution, which was a fine balance of ventilation requirements and acoustic attenuation. This was delivered using 450mm deep louvres filled with Honeycomb Attenuator, a 3D structure laser cut from acoustic foam. Each louvre is 1140mm wide and 2000mm tall and is clad in plywood with external Corten rain-screen cladding.

For the internal studio louvres, the challenge



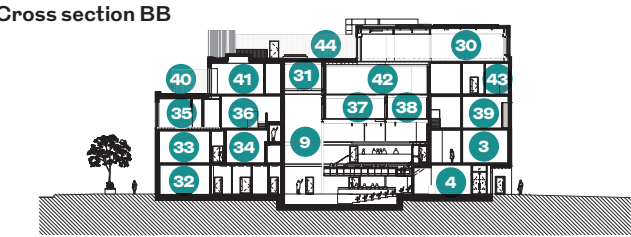
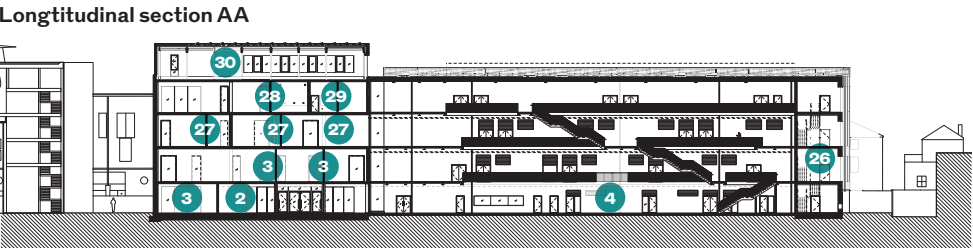
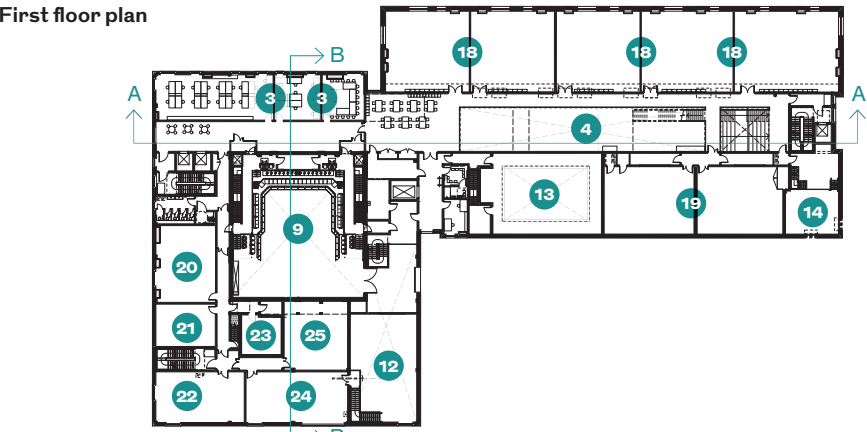
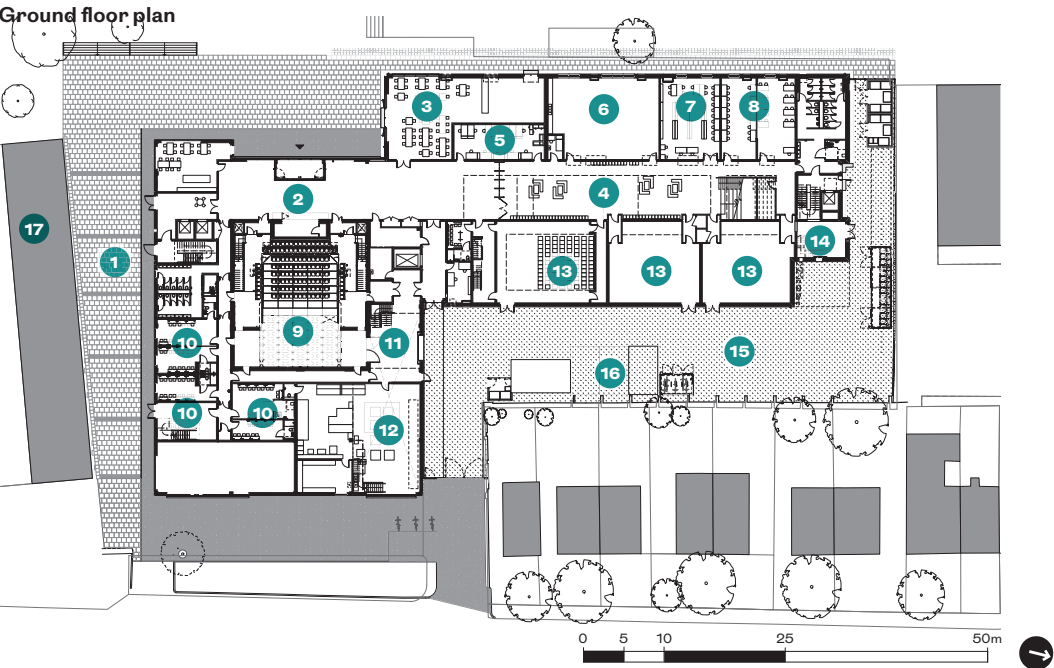
was avoiding sound leakage that could create a cacophony in the atrium. However some hints of studio activity could be a positive addition to the lively atmosphere of the school.

Respecting the ethos

‘We didn’t want to go too far as the ethos of the building is incredibly creative and the atrium is such a fantastic, vital space. Part of that experience is having bits of music and performance filling it. It was a balance,’ says Harrison.

The solution was a 1m deep louvre full of

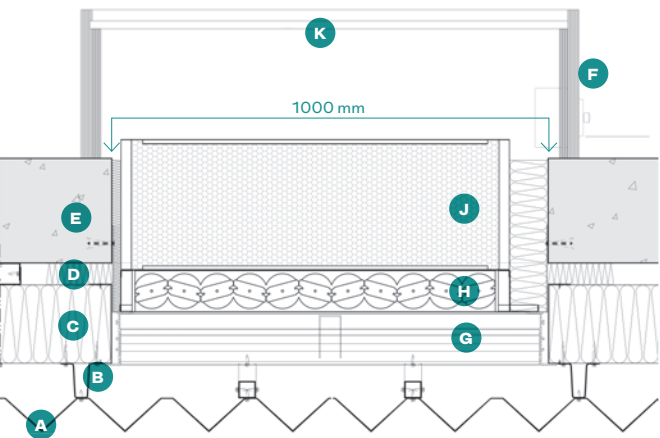
acoustic baffles to reduce sound leakage into the atrium. Both louvre and attenuators were provided by Gilberts. Such depth meant that these louvres could not be accommodated within the wall. Instead, they project into the atrium and are embraced as part of the industrial aesthetic of the space – the building is conceived as a ‘warehouse for the arts’. Acoustic insulation beneath the atrium walkways was considered but not implemented – in practice, the loudness dissipates upwards. The Academy also contemplated introducing some fabric wall hangings



- A 80mm deep folded and perforated face-fixed Corten steel rainscreen cladding panel
- B Folded galvanised steel vertical top-hat section
- C 175mm thick Eurobond Rainspan cladding panel
- D Mineral wool insulation cavity closer
- E 240mm thick in-situ reinforced concrete wall
- F Douglas fir plywood vent encasement
- G 50% free area PPC aluminium external passive natural ventilation louvre profile
- H Motorised damper unit
- J Acoustic insulated attenuator unit
- K 50% free area internal aluminium fascia grilles

- 1 Theatre Walk
- 2 Main entrance / reception
- 3 Lettable unit
- 4 Atrium
- 5 Staff office
- 6 Student common room
- 7 Library
- 8 Computer room
- 9 Main theatre
- 10 Dressing room
- 11 Backstage
- 12 Workshop
- 13 Blackbox studio
- 14 Plant room
- 15 Service yard
- 16 Parking
- 17 Peckham Library
- 18 Dance studios
- 19 TV studios
- 20 Digital design suite
- 21 Sound production studio
- 22 Studio
- 23 Radio studio
- 24 Applied arts
- 25 Prop store
- 26 Stair core
- 27 Workroom
- 28 Rehearsal suite
- 29 Executive suite
- 30 Rooftop cafe/bar
- 31 Fly tower
- 32 Prop workshop
- 33 Applied arts
- 34 Radio studio
- 35 Practice room
- 36 Wardrobe store
- 37 Lx/sound equipment store
- 38 Archive store
- 39 Keyboard lab
- 40 Staff terrace
- 41 Staff office
- 42 Rehearsal theatre
- 43 Meeting room
- 44 Rooftop terrace

Studio block: natural vent typical detail



Credits
Client Mountview Academy
Architect Turner Works
Structural engineer Eckersley O'Callahan
Mechanical and electrical engineer Skelly & Couch
Project manager Baqus
Main contractor Gilbert-Ash
Theatre and acoustic consultant Charcoalblue

Selected suppliers
Gilberts dance studio external and internal louvres and internal attenuators
Mach Products studio external louvre attenuator
Total Vibration Solutions Sylomer studio floating floors
Ecophon studio acoustic rafts
Mason UK DNHS acoustic ceiling hangers



SIMONYEUNG

to dampen down the acoustics if it proved necessary, but these haven't been required. Within the studios, acoustic rafts with Ecophon Solo panels are used to dampen reverberation and control noise levels. The design team was working towards the Building Bulletin 93 acoustic standards, although a higher acoustic performance was required in the recording studios and main theatre. The recording studios turned out to be one of the areas that required remedial measures once the Academy was in use. With dance studios located above them and adjacent to the secondary theatre, these were always going to be vulnerable to sound intrusion. The retrofit dealt with this by greatly reducing the number of connections to the slab - just 15 spring hangers are used. Provided by Mason, these are DNHS acoustic ceiling hangers, and were used with three layers of 15mm plasterboard and insulation in the cavity. As well as these measures, independent stud wall linings were introduced. In the main theatre, acoustic separation was achieved with the use of a separate steel frame to the main concrete structure. Above, a steel truss one floor deep provides storage, with a buffer space between the theatre and an upper

level of rehearsal space. Within the space, Harrison says the aim was to achieve a space that promotes both speech clarity and sufficient loudness. This required sound absorption strong enough to suppress reverberation and aid clarity, but not so much that it would hinder speech projection. This approach required some hard, reflective surfaces to project sound back to the actors and across the auditorium. These were achieved with balcony fronts and side walls including vertically-slatted timber to the side of the proscenium stage wall. These create architectural interest as well as reducing the harshness of sound that can result from smooth surfaces. To enhance clarity, sound absorption is provided high above the technical grid on the walls and the rear portion of the ceiling. This is achieved with black Pyrosorb SV-1 porous foam, contained within a protective wire mesh. Noise from the auditorium ventilation is minimised by the use of a slow air flow as it is drawn up from the stalls and through the theatre space. The main theatre was completed this year after a £1million donation from Cameron Mackintosh, more than a year after the opening of the Studio block. Clad in Corten, the latter



Top In the 200-seat theatre, acoustic separation was achieved with the use of a separate steel frame to the main concrete structure.
Above The rear elevation is less imposing and more informal, to deal with smaller scale of the street.

is conceived as a visual drape around the edge of the building akin to a theatre curtain. Turner describes the building as a 'once in a lifetime project. Building next to Will Alsop's Peckham Library was a big responsibility,' he says, adding that he had met Alsop a few times before he died, and that he had been a supporter of the new building. ●

Costed

Nicola Herring and James Garner from Gleeds provide an overview of acoustic products

Building acoustics are an important consideration for projects as they can affect the productivity, wellbeing and communication of its users.

There are many factors which can influence building acoustics, including the shape and volume of a space; the characteristics to throw surfaces onto the line below, enclosing or separating the space in terms of sound absorption, transmission and reflection; generation of sound; airborne sound transmission and impact noise.

The reverberation time of a room or space is defined as the time it takes for sound to decay

by 60dB, and it affects how a space sounds. It is linked to the volume of the room and the amount of sound absorption treatments incorporated – rooms designed for speech typically have a lower reverberation time than those designed for music which might have a higher reverberation time to add richness and warmth. Sound absorption refers to the loss of sound energy when sound waves hit ceilings, walls and floors, and they are absorbed.

Sound insulation is a technique that is used to restrict sound from travelling between separate spaces through walls, ceilings and floors.

The passage of sound into one room of a

building from a source located in another room or outside the building is termed ‘sound transmission’. Transmission loss or Sound Reduction Index, R dB, is a measure of effectiveness of a barrier (eg wall, floor, door etc) in restricting the passage of sound.

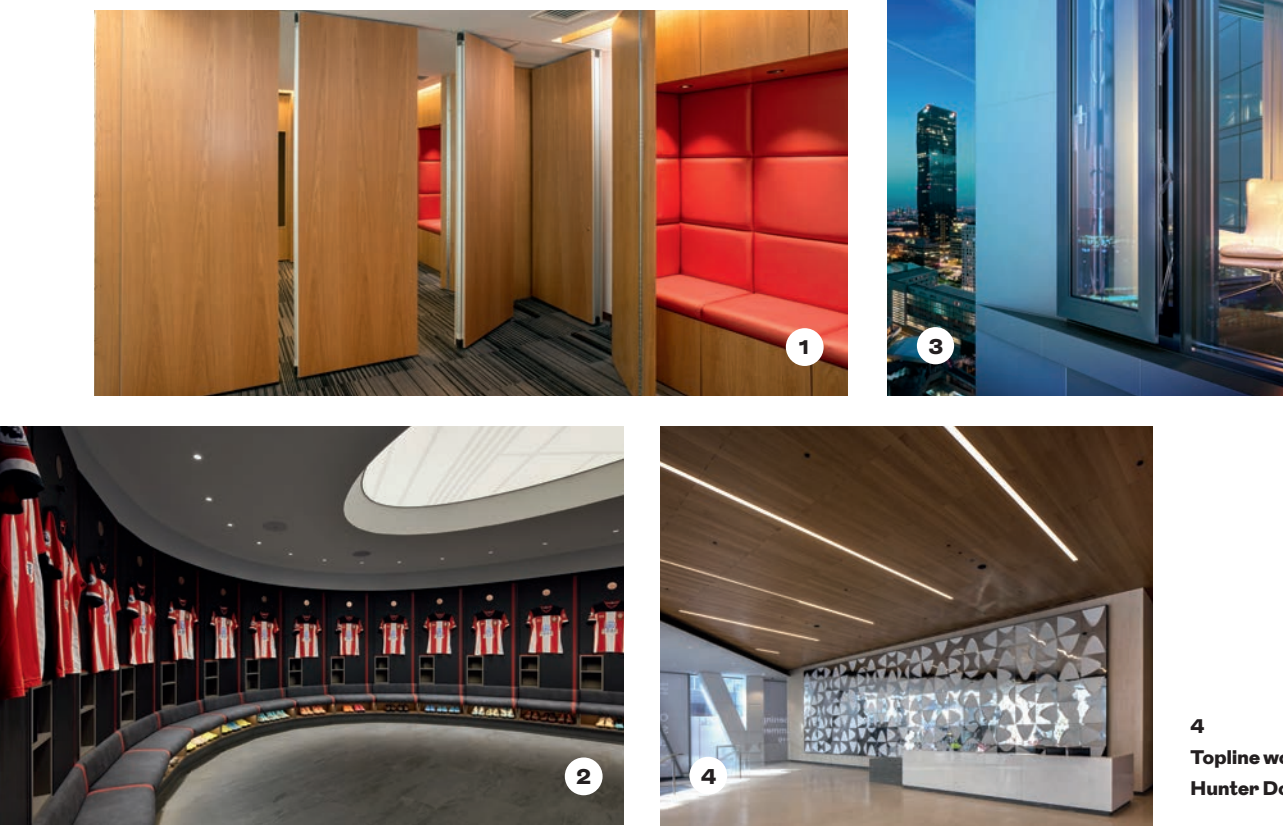
Part E of the Building Regulations sets minimum standards for design and construction in relation to the resistance to the passage of sound.

The following guide reflects the prices a client might expect to pay on a medium-sized project for some products or measures which may be specified in relation to acoustics. ●

Prices allow for installation but do not include the contractor's preliminaries, overheads and profit margin	
	£/m
Stud partition; Rw 56dB, FR 30mins; 2700 – 3000mm high	200 – 230
Stud partition; Rw 63dB, FR 30mins; 2700 – 3000mm high	230 – 260
	£/m²
Timber flush single doors with solid high-density chipboard core; Rw 30dB, FR 30mins	800 - 850
Timber flush single doors with solid high-density chipboard core; Rw 30dB, FR 60mins	830 - 890
	£/m²
Class A suspended ceiling with visible grid and demountable tiles	60 - 75
Class A monolithic ceiling system composed of a stone wool panel (40mm), filler and acoustic render	70 – 90
Class C perforated plank suspended ceiling	65 - 80
Specialist, spray applied noise reduction insulation; 50mm metal stud; 12.5mm plasterboard; 35mm acoustic render	100 - 130
Plant room acoustic wall lining panels	75 – 100
	£/Nr
Suspended acoustic ceiling panel; circle 800mm diameter	280 - 300
Suspended acoustic ceiling panel; rectangle 2400mm x 1200mm	450 - 480
	£/m²
High load bearing screed isolation / underlay 10mm thick; impact rating 30dB, airborne rating 62dB	26.50 – 32.50
High load bearing screed isolation / underlay 15mm thick; impact rating 30dB, airborne rating 62dB	31.50 – 45

PiP specifieds are compiled from supplied company press releases

Specified



1
Dorma Huppe Variflex movable wall
Style

‘Don’t listen to the hordes outside the Library of Birmingham. They’re not your friends, and don’t care like we do. Why else would we block their voices out? Their banging on the door? Because we care. We were FIS certified for you! And this is how you repay us? By going outside?! Who’s been your only companion these past lonely months? Have we left you? Have we been anything other than accommodating? We’ve LITERALLY shaped our lives around you. That night you drank all that Sambuca and Bailey’s, we DANCED FOR YOU!’ style-partitions.co.uk

2
Mono Acoustic ceiling
Rockfon

‘Listen, mate: “Some men say in many parts of England that King Arthur is not dead, but had by the will of our Lord Jesu moved into a secret football management position; and men say that he shall come again, and he shall win the Premier League. I will not say it shall be so, but rather I will say: here in this world he verily hath transformed the fortunes of Southampton FC.”

‘See? We, the Knights Of The Elliptical Rockfon Ceiling, stand ready for his return. Brexit, mate! It’s written! But keep it quiet, yeah?’ rockfon.co.uk

3
Masterline 8 Softone window
Reynaers

Neighbours last night expressed sadness at the sight. A successful hedge fund manager, Mr Heathcliff had been seen acting strangely, looking for a woman called ‘Cathy’ who he claimed to have heard outside the window of his apartment on the 23rd floor of the exclusive Thrushcross Grange development. Resident Hindley Earnshaw, who does not know the deranged individual, said: ‘Of course, that’s madness. These windows are Reynaers Master 8 Softones. Even open, they’re effective up to 53dB. You could literally shove someone out, and no-one would hear a thing.’ annabelkassar.com/home

4
Topline wood veneered panel system
Hunter Douglas

The birds they sang at the break of day but Hunter Douglas tiles meant I couldn’t hear them say ‘Oh no, old Leonard Cohen’s passed away’ Oh what is yet to be? The walls they will be upstaged by staggered grooves again This slit ceiling’s core of MDF it will be bought again veneered in European oak and sold And bought again Such quality is never free Ring the bells that still can ring We will not hear them through this handsome offering There is a crack, a crack in everything That’s how the light gets in... hunterdouglas.co.uk

A sound solution – addressing acoustics in the home

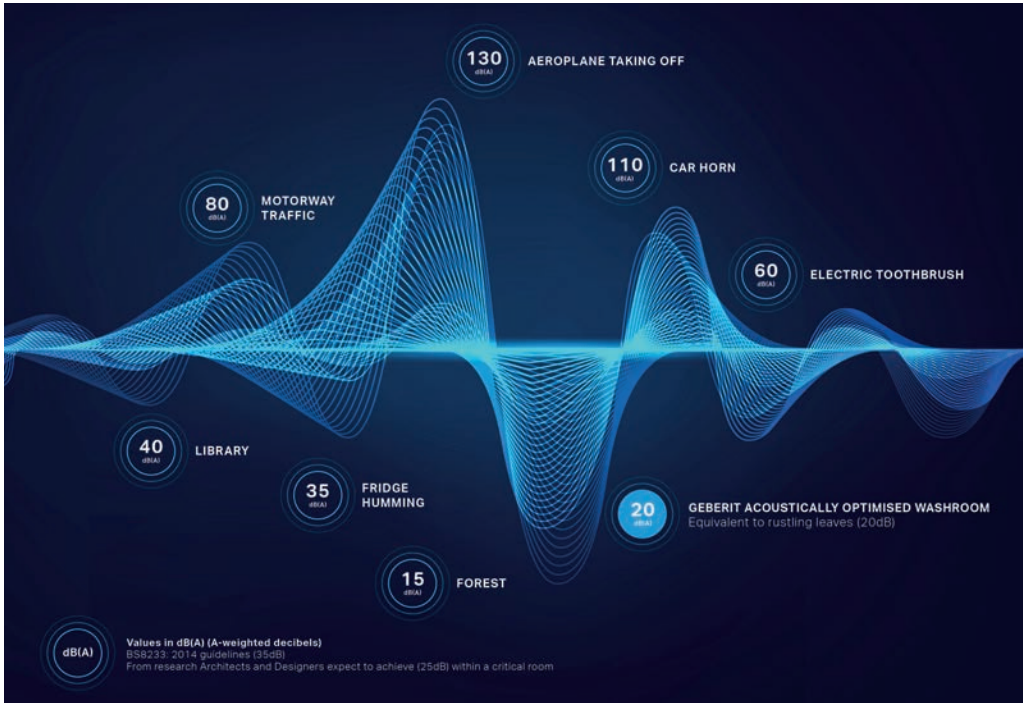
We can never completely escape noise. More machines, more people, more technology – our world is getting noisier. But it’s the impact of the more mundane ‘everyday noises’ in our homes that is affecting our wellbeing, according to recent research from bathroom designer and manufacturer, Geberit. Here Sophie Weston, channel marketing manager for specification and developer, explores the nature of this hidden noise and why it is now calling for a radical rethink of UK regulations around acoustics in the home.

Noise is everywhere. The World Health Organization, which has been tracking noise levels for a decade, describes noise pollution as an ‘underestimated threat’. But consider those less extreme noises that are around us daily. The ones inside our home – those that might not directly relate to volume or pitch. Consider, for example, the emotions that are stirred by a constantly dripping tap, how we feel if our sleep is interrupted by the hum of an extractor fan switching on or the flush of a toilet, even the constant buzz of an electrical appliance on standby in an otherwise silent room.

We surveyed more than 2,000 adults across the UK to get greater insight on the impact of these ‘everyday’ noises – and it’s clear that it’s time to re-think UK regulations.

Amplifying internal noise?
Of course, specifiers are well aware of the need to mitigate the impact of external noise, such as road, rail and air traffic. Yet one could argue that this has perhaps served to amplify noise inside the home – and our survey showed that this does indeed appear to be the case.

More than a third of respondents (38%) told us that noises inside the home, such as electrical appliances, bathroom noise or central heating



Above A Geberit acoustically optimised washroom and drainage system can reduce waste water noise to as little as 20dB. The diagram shows how this compares to other common noises and sounds.



systems, affect them more than traffic from outside does.

Even more concerning, however, was the real impact of this internal noise, with more than half of the respondents (51%) citing these unwanted noises as having a negative impact on their wellbeing.

Going beyond the wall
Let’s look at one of the main culprits of these sounds. Our research showed that one in four of us (28%) is regularly disturbed by bathroom sounds at night or when trying to relax. Waste water in particular is an issue, with 19% regularly disturbed by flushing toilets, running taps or pipes and drains.

There are, of course, products available in the UK market to mitigate the impact of such noise. Sound optimised drainage piping such as Geberit’s Silent-db20 can reduce noise transfer from flushing water, washbasins or showers. Likewise, wall-hung toilets with concealed cisterns and pre-wall frames, such as Geberit Duofix, decouple from the construction, preventing noise from travelling down the wall and through the floor.

And yet, although installation elements in

Left Geberit Duofix installation frames with concealed cistern, coupled with a Geberit flush plate and wall hung WC pan are all acoustically optimised to reduce the transmission of waste water noise in the bathroom as well as adjoining rooms.

the bathroom have direct contact with walls and floors, there remains a lack of stewardship and specific regulation governing the control of waste water noise inside new buildings. Importantly, too, there is very little clarification in the relevant UK regulations over what products should be used to achieve specific sound pressures, particularly when it comes to water and bathroom noise.

To quote the UK Green Building Council’s 2016 report Health and Wellbeing in Homes: ‘Acoustic design and noise control is a key element for the design of stress-free restorative environments.’ However, it would seem that, taking these findings into account, we are letting down homeowners.

Addressing the challenge
Is there a simple answer? Our industry can, of course, make better-informed decisions to reduce noise, but crucially, without specific UK standards on the noise pressure from water systems inside new buildings, there is no requirement for a building to meet a baseline figure.

There is also no defined approach to testing and, therefore, no incentive for different specifiers across a single project to work together and undertake collaborative testing to ensure that they are achieving the best acoustic rating – just as is now required for heating or energy loss.

In contrast to the UK’s vague regulations, Germany’s DIN 410 acoustic standard sets maximum limits for acoustics inside a building.

While some leading manufacturers in the UK will ensure all products adhere to these standards, there nevertheless remains no baseline figure for the sound pressure of water and drainage passing through pipe system in UK guidelines – and thus no minimum standard for architects and consultants to meet. ●

To find out more about the solutions available for architects to meet these very obvious challenges visit [geberit.co.uk/acoustics](https://www.geberit.co.uk/acoustics) to download Geberit’s White Paper ‘A Sound Solution’.



GEBERIT
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<https://www.geberit.co.uk/en/>



Wooden roof, London

Tsuruta Architects' counter-intuitive extension whisks rain back towards the house to leave clear views of the sky above

Words: Jan-Carlos Kucharek Photographs: Ståle Eriksen

In a literal example of 'thinking outside the box', it was the view down over the original lower ground extension that inspired Tsuruta Architects' view out of its new design. Appointed by a lawyer couple to trouble-shoot a leaking glass and steel back extension to their grade II listed home in an Islington conservation area, the firm's design was driven mainly by the shortcomings of the original.

From the raised ground floor formal reception area looking over the garden, the filthy state of the prominent glass roof below suggested water ponding from bad drainage was causing the internal damp problems. With a large,

mature garden beyond the roof line, the architect convinced the client that a sympathetic rebuild in timber was preferable to a patch-up of the existing extension. The result is a delicate but deep diagrid box of only 19m², whose roof deals with the drainage problem and takes account of a part-westerly aspect – the solution being the formal essence of the new project.

With the height of the adjacent boundary wall already dictating the maximum height of the roof in section, Tsuruta went with the flow and followed its angular run in plan too, creating a timber diagrid below a glass roof of 23 triangular, double-glazed panels, their

sectional zig-zagging creating the cumulative falls to deal with the flow rates that the previous shallow mono-pitch couldn't. In what looks like a counter-intuitive approach, the firm ran the falls back to the main building so that the roof now drains to a rear gutter installed between the new structure's perimeter beam and the face of the original wall, or off to the side. These perimeter gutters covertly channel water to the two drain points of the former extension, mingling discretion with practicality.

The firm had worked with Accoya timber on a couple of previous projects and had been impressed with the product's dimensional



Left Not only the garden but the sky. The new intervention has created a space that extends both out and up.

Top Both extension and courtyard were dictated by the extreme angle of the home's boundary wall.

Above Black-charred Accoya on the outside counterpoints the milled faces of the material internally.



Above Over the course of the afternoon, complex shadows cast by the roof begin to play across the ash walls.

Left No mechanical fixings or glue were used at the diagrid roof interfaces.

stability and low thermal conductivity, so used it here fully as structure and cladding. Modelled in 3D and then CNC fabricated, the roof's Accoya elements were assembled on site in small pieces using traditional carpentry methods, which enabled the diagrid cross-structure to interface without the need for glue or mechanical fixings. A 2mm thick ribbon of stainless steel ties the whole together, allowing the glazed panels' structural silicon interfaces to bond to this rather than the top face of the timber.

For the elevations, a shou-sugi ban charred Accoya exterior is offset by the simple, milled inner faces of the Accoya perimeter ring beam,

white-washed to reduce the timber's green/grey hue and treated with a permeable Osmo oil finish. Read alongside fine internal European Ash panel joinery, the whole creates a volume that is formally simple but conceptually rich.

This richness rewards the observer too. Mitigating the long, warm rays of west light helped generate the depth of the diagrid beams, which, come the afternoon, now create a mesh of complex shadows that play across the internal lining of the extension. For the Japanese Taro Tsuruta, the project was always going to be as much about darkness as it was about light.

Yet achieving that conceptual strength has

not been at the expense of practical benefits. From the garden the extension is now clear of gutters and downpipes, and from that all-important formal upper reception window, from which Tsuruta first considered the project, a roof no longer slides apologetically away but offers up its compelling configuration boldly to the viewer to reveal the more informal yet strikingly minimal social space below. And from down there beneath the glass, freed from its incarcerating dirt and detritus, there is now the sky. 'And if you're going to have a glass roof,' remarks Tsuruta, as if needing to state the obvious, 'it's always better to see the sky'. ●

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Specified



1
Vega ceiling mounted cooker hood
Falmec

Such a tragedy. Dear Bill Shatner was declaiming away up there on the induction hob, treating us to his inimitable rendition of 'Space Oddity', when bloody Takai shouted 'ENERGIZE!'

Everybody thought it was hilarious – even me – til the LEDs behind the tempered glass screen started to pulse and the extractor motor began to make this funny ringing noise. Then – POOF! Poor Bill just atomised!

Like so much hot air. And 600m³ per hour means a lot of cultural icon gets sucked up through the zeolite/carbon filter in a very short time.

falmec.uk/en_gb/



2
SAS800 Trucell open cell ceiling
SAS International

Turns out that providing free stuff on the interwebs is actually the way to great riches. Who knew?! Just look at the deliciousness of Wix.com's European HQ canteen. How could they begin to afford that Crawford's family-sized pink wafer ceiling? It's actually aluminium, so it won't go soggy. And that's a bespoke colour, that powder coating. Fancy! I'd probably go for a classic Custard Cream if I were that rich though. Or – the ultimate – caramel stroopwafel. Makes my Tumblr biscuit fan site look a bit sick, and not in a good way.

sasint.co.uk



3
Stardust So Small LED chandelier
Contardi

'Yah, Dimitris? We had to let him go. It was quite fun to start with, you know... that... Mediterranean colour he lent life on the super-yacht, but some of his more ah... shall we say... authentic? Habits? They were causing problems.

'So annoying. The worst – and last – was when he used this very exclusive Contardi LED chandelier as a lobster pot. We didn't realise til MBS came for drinks and spotted a big kelpy dangler overhead. So yah, we let him go.

'Dimitris, that is. We kept the lobster.'

contardi-italia.comcoming-soon/



4
Meisterstück Classic Duo oval bath
Kaldewei

I am Gioacchino Napoleone Murat, King of Naples. In 1812, I closed down this monastery overlooking Vesuvius. And what do I see? This... how you say? Très belle bain nouveau? You put this in yourselves? How de rigueur!

Bien. It's mine now. It has been 100 years, and I haven't changed out of this uniform since I was executed. Pretty sticky, to be fair. Enamelled steel, you say? Lugged up into the Neopolitan hills for little old me? Too kind. And bubbles! Good job I take my rubber duckie everywhere. Close the door after you. I will dine at nine.

kaldewei.co.uk/

Sign Up

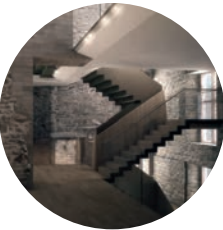
Stuart Cade, director MICA Architects, chooses three of his specification favourites



RICHARD BRYANT



ANDY STAGG OF @STUDIOSTAGG



RENDERING BY MICA @MICAARCHITECT

ENGINEERED OAK

We have worked on many projects with Ardern Hodges, which specialises in bespoke engineered oak. Its craftsmanship includes flooring, parquet and furniture. The material is rich, characterful and fantastic to detail; it is uniquely stable and defies the negative image of engineered timber products. It combines two thick layers of oak with a marine plywood core. The timber is sourced from the sustainable thinning of mature French Napoleonic forests, which is critical to the woodlands’ health. Unlike solid timber selection, most of the oak is used, as timber rejected for knots or visual imperfections can be used for the invisible balancing layer.

FRAMELESS GLASS

Working with glass is in our practice’s heritage. We enjoy its spectacular qualities; what it provides; the joy of detailing its junctions and oversizing it, blurring its edges. We use large-format glazing sparingly and judiciously to signal activity, frame a view or promote visual connections. We work with expert partners such as Eckersley O’Callaghan and Seele and specify Skyframe, Vitrocsa and Keller who share the same objectives and produce extraordinary solutions. Our Northgate Oxford project, currently on site, has a singular oversized frameless picture window, high in a new gatehouse, giving spectacular views of the Oxford skyline.

PATINATED STEEL

On our Hay Castle project we are working with Capisco, a Leyton-based workshop of artisans that specialise in patination, including patinating facades, and finishing small installations and art pieces. Capisco has developed recipes to patinate copper-based alloys and is using a blackening process at the Castle for a structural steel-plate staircase – a contemporary feature of its East Wing. A hard wax finish will provide both a subtle sheen and long-term durability. The final process, completed in-situ and entirely by hand, will give the staircase a unique texture and depth of colour, which will contrast with its raw stonework setting.

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RIBA Journal
riba.org
Published by RIBA 1834. Registered office:
66 Portland Place, London W1B 1AD.
Registered charity no. 210566

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...Sign Off

Jan-Carlos Kucharek enjoys three stand-outs from the inbox



TAKING THE OZONE

‘Taking the ozone’ was a quaint Victorian term used by those visiting the bracing coastlines of Britain’s seaside resorts; though the nearest modern urbanites might get to it is standing in a Tube station inhaling electrical arc-infused air from the tunnels. Lockdown has done away even with that vicarious experience, so hurrah for British perfumier Penhaligon’s ‘Wish You Were Here’ campaign, linking six of its signature fragrances to half a dozen of Blighty’s much-loved seaside towns – though anyone stumbling along with the Stag and Hen nights of Blackpool’s Golden Mile of a Saturday might be whiffing perfumes of a very different sort.



IT’S NOT EASY BEING GREEN

That’s right...but it’s official: the global pandemic has a colour – and it’s green, Kermit! At least so says research by paint manufacturer Dulux, curiously looking into coronavirus colour trends. It comes to big conclusions, claiming we haven’t seen a societal behavioural shift like this since the 1950s when we finally got rid of ration books. In seems lockdown Colour of the Year is ‘Tranquil Dawn’, ‘a soft green hue with a calming, restful quality...designed to create a feeling of calm and contemplation’. That may be so, but personally, I’ve spent so long in my home office staring at the same four walls that I’m about to be driven up any one of them, green or not.



LOCATION, LOCK AND ANOTHER LOCATION

We had time to contemplate the darling buds of May in fine weather, but June and July were a washout, so you’d be forgiven for abandoning ‘summer’ and embracing the waters. It’s what ‘designer Owain and art teacher Rosie’ did with their ‘world’s first houseboat made of sustainable Corten weathering steel’. And very nice it is, with interiors of FSC certified and reclaimed timber; but being on a ‘continuous cruising’ licence, you can’t stay moored in any one place longer than it takes you to officially self-isolate. It certainly proved too much for the owners, who are selling up to get to dry land in a move that’s less ‘Grand Designs’ than ‘Flog It!’



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