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# While there was...

...a giddy pleasure in basking in 30-degree temperatures here in the UK for six weeks this summer, there was along with it a gradual, gnawing awareness that similar temperatures in northern Norway on the edge of the Arctic Circle might be something to be concerned about.

Climate change denial apart, we were all charmed and mesmerised by the aerial photographs captured last month by Historic England's roving archaeologists, who took to the skies to record hundreds of ancient

settlements that were manifesting themselves across the parched countryside like that child's trick of 'invisible' lemon juice writing appearing when held over a naked flame – except on a geological scale. Those thousands of years old palimpsests of past communities remind us how deeply the home is bound up in our very sense of what it is to be human.

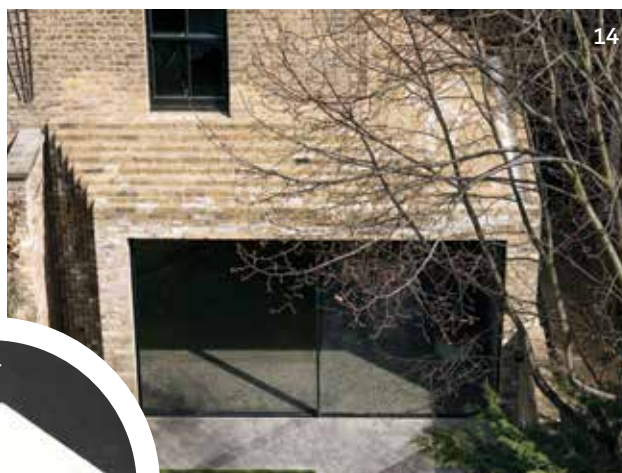
By any standards the government's social housing green paper comes across as lacklustre, but seeing it in that historical context serves to emphasise the staggering chasm

between housing need and housing provision in the UK. Independent studies seem to put the requirement for new social rented homes at about 60,000 a year over the next 15-20 years. The housing minister's recent commitment to spending £100 million to end homelessness in nine years goes some way to acknowledging that we're not hermetic but social creatures, but it's only through investing billions that short-termism can transform into addressing a primal need. ●

Jan-Carlos Kucharek, editor



06



14



54



18



50

## More online...

Climate gentrification is based on the idea that climate change impacts make certain property either more or less valuable

Stephen Cousins finds a way to cash in on the climate: [ribaj.com/gentrification](http://ribaj.com/gentrification)

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Cover image: Preston Bus Station/Gareth Gardner





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Doors

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# Compendium



## Stuck on you

HARU stuck-on design is pushing the notion of 'New Ornamentalism' a bit further down the road and has netted itself a 2018 Red Dot Design award in the process. Developed by Japanese company Nitto, which since 1918 has been making insulation materials and adhesive tapes for medical, electrical and automotive uses, it's a tape that sticks to all kinds of surfaces: furniture, walls and floors. This allows architects to quickly transform the look of a space on a grand scale – and it can be removed without a trace. Available in a host of colours, patterns and widths, it offers designers the freedom to not only 'pop up' but 'peel off' too.



STEPHANE CHALMEAU PHOTOGRAPHE

## French for big

Le Grand Large, part of the Dunkirk marina in northern France, is a mixed-use development by architect Agence Michelin & Associés and might be a good place to grab some moules after a visit to the Dunkirk Memorial Museum commemorating the evacuation of nearly 340,000 Allied troops here from 26 May to 4 June 1940. It's less hair-raising on the beaches now; people choose to hang around rather than look for the fastest way of getting off them. This leisurely feel is reflected in the 'neutral, classic tones' of the development's Cobble Stone and Timber Bark HardiePanel cladding, turning a calm face to the onshore gusts.

## Food of love

Indian chef Vivek Singh has two London Cinnamon Kitchen eateries and recently opened one in Oxford. The design of his restaurants, by DesignLSM, pairs a minimalist aesthetic with 'subtle elements reflecting the intricacy and elegance of Indian architecture'. The 370m<sup>2</sup> new restaurant has a bar made of Caesarstone's 5143 White Attica quartz which, says DesignLSM's Carly Zaver, 'is extremely durable and stain-resistant compared with natural marbles.' Whether the material outlives the whims of changing fashion remains to be seen; but perhaps its specification will obviate the need for the charmingly arcane-yet-effective mud-pack marble treatments currently being employed on Shah Jahan's 1631 Taj Mahal.

DAVID COTSWORTH



## Key Lime Pied

Wenlock Edge in Shropshire has plenty of history. It's here that Royalist cavalryman Major Thomas Smallman leapt off a 61m limestone escarpment to evade Cromwell's Troops and he and his horse are said to still haunt 'Major's Leap'. But it's limestone formed in the Silurian Period 425 million years ago that's let firm Lime Green develop the lime-based mortars, renders and plasters used on historic buildings around the UK, continuing a 500-year-old tradition of lime production in the area. It's celebrated this fact by opening a new factory producing 100 tonnes daily.





STUDIO AISSLINGER

### Hot tub time machine

It might not be in line for a telegram from the Queen, but that's not going to stop German bathroom products manufacturer Kaldewei from pulling out all the stops (as opposed to the plugs), to celebrate the 100th anniversary of its founding in Ahlen, Germany this year. In that Teutonic drive for precision over the decades, it has secured itself, its PR material states, more than 150 design awards, which has seen its products mixing it with the best in the industry. The confidence this has inspired has made Kaldewei bold too; take, for instance, its collaboration with Studio Aisslinger on the Tricolore Aisslinger bath. The result is a curious smashing together of a what seems to be a Memphis sideboard with the historical archetype of the claw hammer bath. How could an idea so wrong produce something that looks so oddly right?



### Psycho geography

The London Dungeon has built its brand on creating a sense of disorientation once you're through its subterranean doors, but it's not such a good idea at ground level. While the nearby London Bridge redevelopment, with its new rail station and the Shard, is largely complete, the task of bringing legibility to wayfinding in the public realm of the 'Tooley Street Triangle' has fallen to Charles Holland Architects. Its ironic 'You Are Here' scheme consists of a giant A-Z map on the ground, as well as providing an architectural seating 'beacon' that offers respite, delight and, critically, orientation for visitors.

### Deco-rate

Hawkins Brown's work refurbishing and upgrading London's grade II listed art deco Hackney Town Hall won it an RIBA regional award this year. A significant element was the covering over of two underused courtyards, creating new atria that the Town Hall can use as revenue-generating entertainment venues. To hide the new service runs, the firm asked Armstrong Ceiling Solutions to create folded bronze anodised aluminium panels to veil them. The panels were custom perforated by laser into a pattern that mimics the original walls behind it – brickwork, Crittall windows, drainpipes and all. The trompe l'oeil effect conceals the new smoke ventilation system and features acoustic fleece behind it to absorb sound reflections around the space.



SIOBHAN DORAN



### Family changing

PIP loves a statistic, so when new washroom brand Splash Lab sent over its PR citing its own research findings, we were all ears. Did you know, for instance, that 74% of UK office workers 'purposefully visit the washroom for solitude', or that '60% of diabetics are in fear of injecting in public toilets due to poor washroom hygiene', and that 55% of regular travellers are unhappy with airport washrooms? Here's another stat: 50% of family washroom fittings company Lovair's executives quit to form Splash Lab, founded by Justin and Fraser Lovell. Why? Did the duo wish to tap their own creative juices or merely wash their hands of blood ties? WILL WE EVER KNOW?



### The hoofs and have-nots

Architect Suzanne Brewer can't have had it easy designing a speculative new build luxury property in London's Blackheath Conservation Area. Perhaps the dark timber cladding, evoking the saddle oil coating of the site's original stables, appealed to local planners. She kept the timber theme going inside too, using Havwood's Natural Oak herringbone golden-toned planks to complement the Scandi-modern aesthetic.



ANTON GALAKHOV

### Red star?

Move over the Shard. St Petersburg's Lakhta Centre has topped off at 462m, making it the tallest building in Europe. It's been sealed in a curved glass facade with a surface area greater than all 14 football pitches used for the World Cup. The design, by Moscow architect ZAO Gorprojekt, was clad by Permasteelisa's German subsidiary Josef Gartner GmbH, whose skills were tested with a facade that curves out at lower levels, in at upper, and includes cold bent panels.



### Higher education courses

Brighton College might have had the foresight to be the first UK independent school to introduce compulsory Mandarin at 13, but having been founded in 1845, it still looks to maintaining traditions in other aspects – not least with its gatehouse, finally completed in 2015 to its original 19th century design. But other buildings in its future expansion programme also nod to the past; notably its new Hopkins-designed Kai Yong Yeoh Building in Brighton. Offering 23 classrooms and break-out spaces around an atrium, it's sturdily built in Michelmersh's Charnwood Farnham Red handmade brick.



SIMON KENNEDY

A modern interior space featuring a curved wooden wall, a large circular wooden structure, and a staircase with red carpeting. The Ferric balustrades are made of polished metal and glass, providing a clean and contemporary look. The background shows a reception area with a curved wooden desk and a wall with the text 'SQUARE SANDERS'.

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# Historic structures need BIM too



Historic buildings are not only some of our most loved pieces of architecture, they are also historical texts that can be read and preserved. This is why Building Information Modelling (BIM) is so vitally important to the heritage sector. Most associate it with the construction of new buildings, but it also has huge potential for the historic built environment sector.

Not only does BIM enable collaboration, improve efficiency and drive up quality, it can also reduce the costs of complex build projects and ongoing repair and maintenance programmes.

Perhaps most importantly, it enables all information to be kept in a single model or environment. Heritage information is the basis for the understanding and preservation of the historic environment, but I often ask clients on refurbishment projects for information on specific parts of a building and they just don't have it. The ability to capture building data and information and store it in a central database would solve this problem.

Despite the obvious advantages, BIM

methodologies and technologies remain underutilised and little understood in the heritage sector. That is why the cross-industry BIM4Heritage Group has been set up. Launched in September 2017, it is comprised of a range of built environment organisations that have experience of working in the heritage sector. It has been formed within the BIM4Communities Group as a forum for organisations and professionals to share knowledge and lessons learnt on BIM as it is applied to historic structures.

We welcome architects, consultants, contractors and anyone from across the built environment industry who would like to contribute their learning to the group. In the initial phase, the group will be identifying the problems that emerge when current BIM technology and processes are applied to historic structures – for example, the challenges of using BIM software to model walls that are full of kinks and idiosyncrasies.

We will also be researching how BIM technology can support conservation, repair and

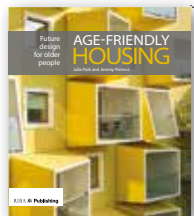
maintenance activities via analysis and simulations. There are already some fantastic projects to learn from. At Lendlease, for example, we have been working with the Houses of Parliament, the Royal Academy and the Imperial War Museum to develop the application of BIM technology. Museums in particular are taking great strides, with the Natural History Museum and the British Museum also implementing BIM for maintenance and refurbishment.

Applying BIM to the heritage sector has enormous potential: it will ensure that complex programmes of improvements, repairs and maintenance are delivered effectively and efficiently, and it will help preserve the layers of information and the 'living history' of our much-loved heritage buildings. Please get involved and help us lead the way in realising this potential. ●

**Edonis Jesus is BIM leader at Lendlease Consulting Europe and chair of BIM4Heritage.org**

## Books

Buy at [ribabookshops.com](http://ribabookshops.com)



### Age-Friendly Housing: Future design for older people.

Julia Park and Jeremy Porteus eds. RIBA Publishing. 162p PB £40

With the dearth of imaginative housing for older people slowly improving, it's good to see these authors aiming to set the bar high in the sector. The book is, in effect, a reappraisal of the DCLG's 2009 HAPPI (Housing our Ageing Population Panel for Innovation) report, in which Julia Park was involved. In the 2009 report, the best examples of housing for older people were all abroad. Now, it's encouraging to see that the majority of the case studies hail from the UK, making for a text full of housing exemplars achieved via various procurement routes. But the core message seems to be a simple one. Don't segregate older people but integrate them effectively into developments: lifetime communities, not just lifetime homes.



### Architecture and the Forest Aesthetic: A new look at design and resilient urbanism

Jana VanderGoot. Routledge. 276p PB £24

Imagine a scenario where the forest is a prime consideration in the language of design rather than something considered just to oppose the otherwise deleterious effects of unfettered urbanism. Jana VanderGoot, assistant professor at the University of Maryland does; and in the course of her thinking produces a book that, surprisingly, doesn't come over as a heavy-handed idealistic manifesto but a reasoned, studied overview of how this is achieved. Perhaps it's the charming blending of live forest-based projects from round the globe with beguiling plans and infographics of proposals that makes the author's argument so compelling – and believable. Shame the book is all in black and white though: maybe she's subliminally positing the scenario of a world without green.



### Manufacturing Architecture: An architect's guide to custom processes, materials and applications

Dana K Gulling. Laurence King. 352p HB £65

Gulling's book is like a bucket list of all the best PIP factory visits you could ever go on. It acts as a reference guide to help architects and building designers to customise repetitive manufacturing processes for architectural applications – and it's a wonderful tome. Gulling's research at North Carolina State University focuses on the intersection of construction and manufacturing methods, materials, structure and design. All of these aspects are evident in this copiously illustrated book. Be it moulded, tooled, slump cast, pultruded, explosively formed or centrifugally cast, it's all in here with explanatory diagrams of processes and photos of products on finished buildings. Not only useful, but engaging and inspirational.





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# Made



**David Armitage**  
Founder and chairman



**Left** York Handmade bricks were used in the restoration of St Bride's, East Kilbride, originally by Gillespie, Kidd and Coia.

**Below** Rivington Street Studio's De Grey Court student halls for York St John University.

**Right** Carmelite House, London, by Fletcher Priest.



**What:** York Handmade Brick Co  
**Where:** Alne, North Yorkshire

One of two things happened to many companies after the 2008 financial crisis: the big ones got bigger and the small ones got taken over or closed. This was true of the British brick manufacturing industry too, says David Armitage, founder and chairman of York Handmade Brick Co. But, unlike many, this small company survived through innovation and good business judgement, doing what it could to keep going. This is no doubt largely a result of how well its then director knew his trade: he lives and breathes brickmaking.

Armitage was born into the fifth generation of the family that in 1824 set up George Armitage & Sons, which provided the bricks used to build most of grand Victorian Leeds nearby.

'My father was a surgeon, but we weren't really expected to do anything else,' says Armitage.

That firm was bought in 1988 by Marshalls

(now Forterra), but instead of pocketing his share of the £60m sale price and retiring early, as many members of his extended family did, Armitage bought a small, semi-derelict brick yard with its own clay field in the village of Alne, 11 miles north of York and transformed it into York Handmade.

'I wanted to put something back into the industry I had got so much out of,' says Armitage, whose son, Guy, the sixth generation, took over in 2016 as managing director. His idea, contrary to the way the tide was flowing at the time, was to return to the craft of making bricks – their simple nature, texture and variety in colours, tones and formats. This strategy makes it the last big maker of handmade bricks in the UK, and means it can stand out against some of Europe's manufacturing brands for the evident craftsmanship and honesty of its bricks. They really are thrown by people in the heat of the factory.

'The challenge is to modernise, but not engineer all of the character out of the products while you do that,' says Armitage. And the good

news is the company is expanding, investing in its production and looking to create new products all the time. Despite difficult planning conditions in this scenic location on the edge of the Howardian Hills, the company is opening a new 20-acre quarry adjacent to its existing one which will secure its supply of clay for the next 40-50 years. This year it will also complete construction of a new drying room, which will help cut drying hours from 80 to 40. The aim is to increase production from 3 million bricks a year to 3.5 million.

One of York Handmade's key strengths is its comparatively small size. This allows it to operate flexible kiln production, adjusting schedules as required so it can make bespoke bricks in both large and small batches that other companies wouldn't be able to justify. In the 1990s, after the fall of the Berlin wall, this attribute saw the company make extraordinarily large format 300 x 100 x 100mm bricks for the east German cities of Luckau and Rostock as part of efforts to restore their historic city walls.

Yet while the manufacturing authenticity



makes York Handmade products ideal for restoration work and traditional projects, including the recent renovation of London Bridge Station, their character appeals to contemporary architecture too. Its long format Maxima range, which rather steals the show on the factory floor, was used for Stephenson Bell's Chetham's School of Music in Manchester and at Renzo Piano's Shard at London Bridge. You will also find York Handmade at the redeveloped Westgate shopping centre in Oxford, where brick took over from original concrete, and at Phelan Architects' York Racecourse. Six months ago, the firm also launched London Stock, a yellow blend designed to suit the London context – a genuinely British-made product that should please planners.

But why use brick at all? 'It's a natural material that uses a relatively small amount of resource,' says Armitage – and if you want to see and feel the heat for yourself in Alne, he'll happily show you around. ●

Written in collaboration with York Handmade Brick Co.



### 1 RAW MATERIAL

The first step in the brickmaking process begins with the clay, a naturally red variety. At York Handmade most of the clay used in its bricks is quarried from the company's fields next to the factory. Extraction takes place around four weeks every year. In this process, the field is split into cells, and the upper 1m layer of soil and lime is removed. Clay is then dug out using a track digger and stockpiled for use over the year. When a field has come to the end of its useful life, it is restored to leave minimum visual impact on the landscape.



### 2 MILLING

The next stage of the process readies the clay for mixing. From the stockpile, the dried clay is put through a series of preparation machines and rollers that work it to a manageable consistency. Different coloured sands, coke breeze, barium and liquid sodium carbonate are added in various proportions to alter the final appearance and colour of the original red clay. Orange sand, for example, creates an orange-coloured brick, liquid sodium carbonate brightens the colour and coke breeze (a waste coal) is used to darken.



### 3 THROWING

From here the milled clay is transported to the factory line where it enters the mixer for rehydration. At York Handmade there are two lines, one making regular brick sizes, the other specials. On the latter, mixed clay drops onto the belt where a team of up to four throwers shape it using locally made wooden moulds. A sprinkling of sand is used to line the mould as a release agent. When used in larger quantities, the sand creates a more textured brick. Excess clay is scraped off the top, before the brick is turned out onto pallettes. Each thrower produces around 100 bricks per hour.



### 4 DRYING AND SETTING

The wet bricks need to lose 20% of their moisture before they can be fired. From the line they are moved into one of York Handmade's two huge drying rooms, where burners introduce hot air into the room through a series of ducts via rotating cones in the ceiling; meanwhile extractor fans suck moisture out. Each room can hold 30,000 bricks, and the company is in the process of building another. Once dried, the bricks are set ready for the kiln, different patterns in the setting causes variation in final colour.



### 5 FIRING

At York Handmade, firing in the kilns is a 24 hour, seven day a week operation. It takes place in 72-hour cycles three to four times a week in two British-made moving hood kilns that each take 30,000 standard sized bricks – the whole structure moves on rails. Different clays fire at different temperatures, and York Handmade's kilns are generally programmed between 900°C and 1080°C. The firing temperature is another influence on the colour of the final product, as well as its frost resistance and ultimate strength.



### 6 DISTRIBUTION

After firing, the bricks are left to cool before being sorted and transferred to the stockyard where York Handmade has in the region of half a million bricks ready for distribution via haulier to architects, one-off self-builders and small developers. Colours range from the newly introduced London Stock yellow, through orange, browns and reds, as well as blended colours. Colour ranges are named after local villages. Certain products are made to order, but York Handmade's bestsellers are Old Clamp for its heritage look and the Maxima size for its long format.



BEN BLOSSOM



**Left** Brick slips create the illusion of a brick ceiling.  
**Below** The roof is generated from a complex structure of stepped beams.  
**Below left** Note the step in plan allowing light into the rear of the existing terrace.

# Stepped brick roof

**What:** Extruded brick extension

**Where:** North London

The humble side return extension has been given a stackable upgrade at the Step House in north London, where reclaimed bricks have been stepped to dynamic effect.

Architect Bureau de Change switched the more common pitched glass roof treatment for an extruded brick extension on the terraced house that appears to melt away from the existing structure to create space for a new living area.

Billy Mavropoulos, co-founder and director of Bureau de Change, says: 'We wanted to design something more integrated into the existing fabric of the building and came up with the idea that the first floor is being pulled down and away from the facade; making it from bricks would create a stepped surface.'

The rhythmic stepping matches the profile of the rights of light diagram required to prevent shadows into the neighbouring property.

The bricks step in plan, as well as in section, to form the edge of a light well on one side of the property, designed to convey natural light into the living area and the dining room at the back of the existing house. Adding to the sense of movement, one wall of the extension peels away from the property boundary.

The standard London yellow stock bricks used were all reclaimed, mostly from the demolished rear ground floor of the building.

To achieve column-free spans in the living area, the first floor is supported entirely by the stepped roof, which is embedded with several stepped structural steel beams that transfer loads down into steel columns in the walls.

'This was an interesting structural challenge to resolve,' says Mavropoulos. 'The detail is even more intricate at the edge of the light well where the roof steps in plan and in section. The beam had to be laser cut and welded in sections to run diagonally to follow the same shape.' ●

Stephen Cousins



BEN BLOSSOM



## THE TECHNICAL BIT...

Bricks for the roof of the extension are stuck to a 5mm layer of glass reinforced plastic on top of an 18mm layer of OSB engineered timber that's fixed to the steel frame.

Things get more clever on the stepped ceiling inside, where the illusion of a brick structure was created by hanging 20mm thick brick slips onto backer board attached to OSB.

The slips were created by hand-carving the reclaimed bricks, says Mavropoulos: 'It was an interesting process, at the corners you see what looks like a full brick, but it has in fact been cut so that only two surfaces of the brick are intact, like a sleeve that covers the edge.' According to the architect, the toughest aspect of the entire job was forming the lintel for the light well, above the stepped glazing, where the solid bricks on the roof had to wrap around and transition seamlessly into brick slips on the ceiling inside. 'Everything had to remain in tune without any awkward joins. Let's say it was a big maths exercise,' he concludes.

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# Royal Academy of Music

The acoustic requirements for opera and for musical theatre are very different. So how do you accommodate both in the same space?

Words: Pamela Buxton   Photographs: Adam Scott





**Left** Stalls seat view of the refurbished Susie Sainsbury Theatre – the upper level balcony is a new intervention.

**Below** Articulated timber linings are designed for acoustics: pendant lights hang like jewels.



Nine years after the Royal Academy of Music commissioned a feasibility study to upgrade its central performance space, it has finally realised its ambitions with the completion of the 309-seat Susie Sainsbury Theatre designed by Ian Ritchie Architects. During the design process, a new 100-seat recital room above the theatre emerged as something of a bonus.

Resplendent in cherry joinery with red faux leather seating and a spectacular lighting array of 600 fibre-optic 'crystals', the theatre certainly looks the part, in sharp contrast to the carpet-walled, lecture-theatre-like space it replaced. But what of the acoustics? Sound quality





**Above** Blue-grey prepatinated copper walls and roof of the Angela Burgess Recital Hall.

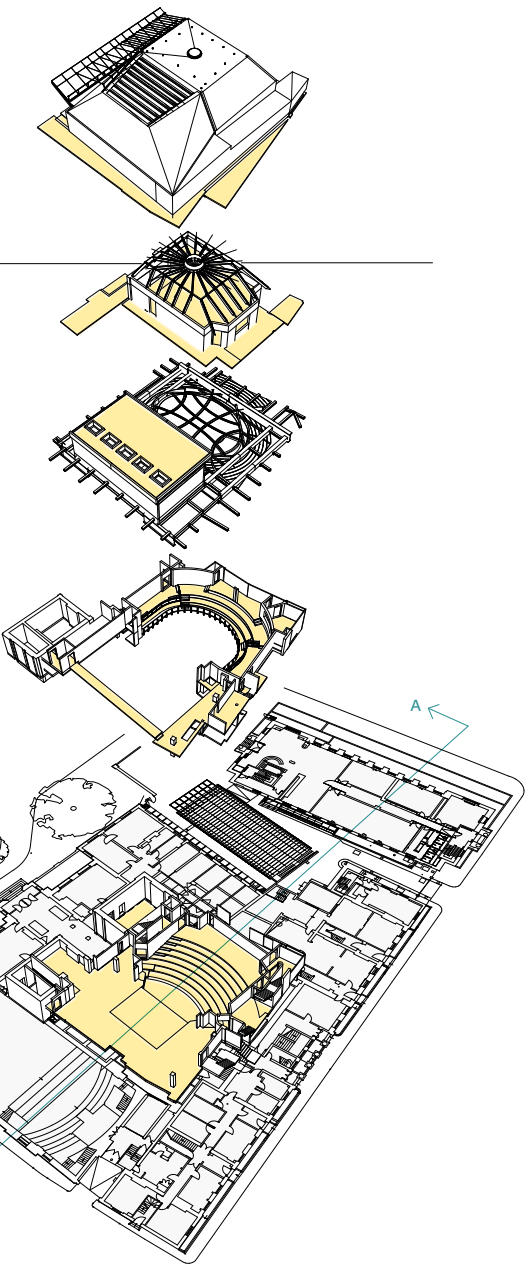
is critical in any performance space but especially at a venue training elite young musicians and singers.

‘The academy attracts world-class students, and it is vital that they have outstanding spaces – visually and acoustically – in order to develop their talents for the world’s stages,’ says project architect Brian Heron.

From early in the project Ian Ritchie Architects collaborated closely with specialists at Arup to ensure that optimum acoustic provision was built into the design from the outset, and that the new theatre was equally able to stage opera, where the voices have no amplification, and musical theatre, which has significant amplification.

‘You have to make sure you get excellent results in both scenarios,’ says acoustician Philip

Exploded view



- 1

Stalls
- 2

Main stage
- 3

Main stairs
- 4

Theatre lobby below
- 5

Recital room
- 6

Fly tower

7

Recital hall lobby

8

Theatre balcony level

9

Orchestra pit

10

Plant area

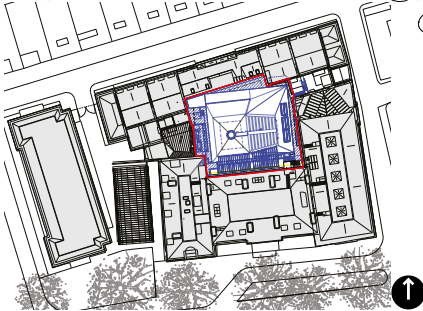
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Stage lift machinery

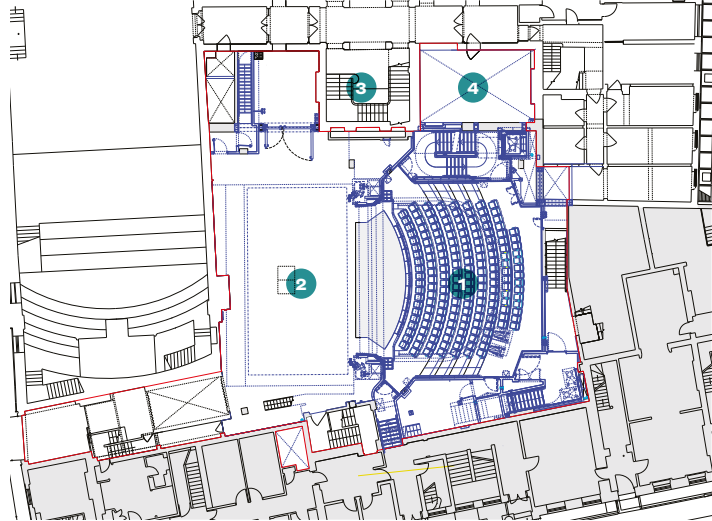
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Corridor

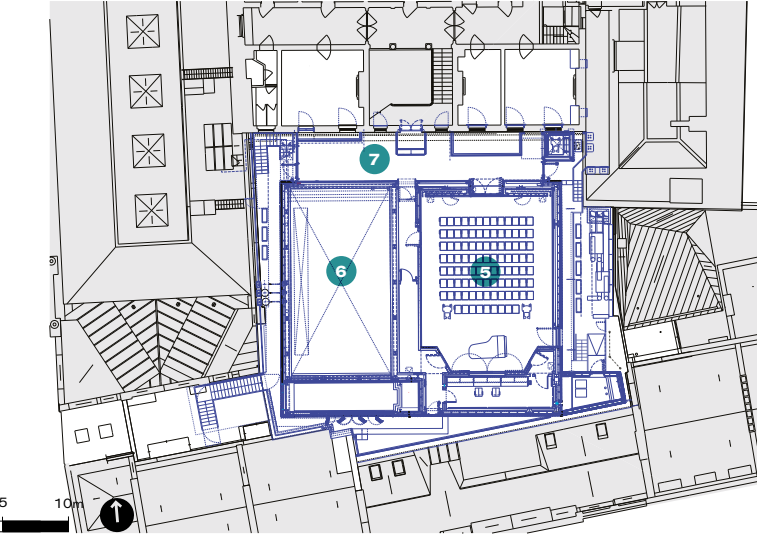
Site plan



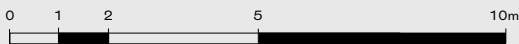
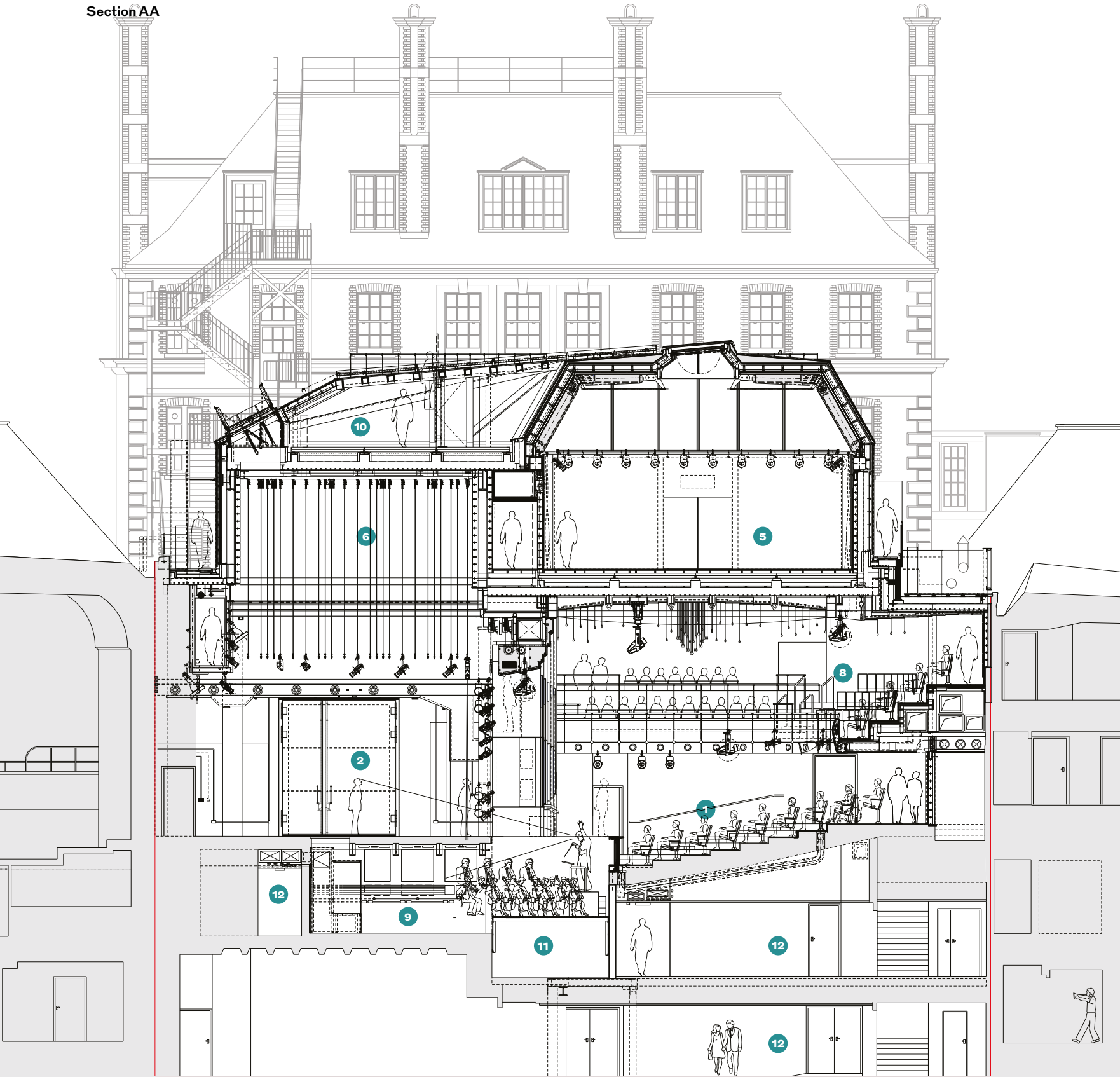
Theatre level plan



Recital space level plan



Section AA







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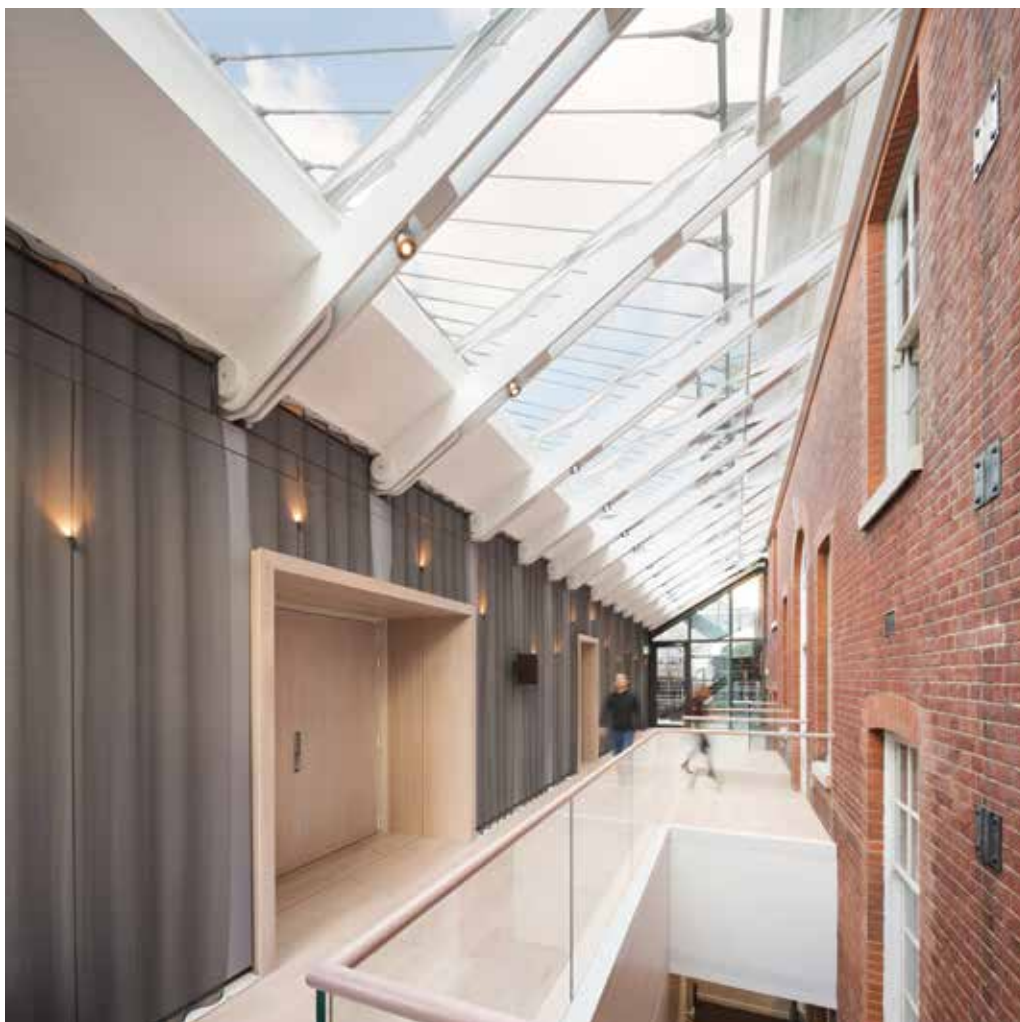
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**Left** Articulated surfaces in the recital hall have helped create optimum acoustics for the space.

**Below** The recital hall lobby connects back to the original Edwardian building.



Wright, associate director at Arup.

For opera, this meant working with the surfaces of the room to provide a series of sympathetic reflections that support the voice and hold it in balance, giving some sense of the room in order to provide an immersive experience. Musical theatre had different requirements, in particular the avoidance of too much reverberation.

‘While you don’t want a really dead space, you don’t want a space that’s too dominated by reflected sound. So there is a slight tension,’ he adds.

Variable acoustic measures would normally be introduced to cope with the dual use. But the relatively small volume of space meant that the design team could avoid this by introducing sufficient texture in the room surfaces.

Built within what was originally a courtyard at the heart of the Academy’s listed Edwardian headquarters in Marylebone, the new theatre is a redevelopment of the 1970s Sir Jack Lyons Theatre, which was stripped back to its concrete slab. As well as improving sound quality and ambience, the Academy wanted to enlarge the orchestra pit by bringing it one metre further out into the auditorium to improve the connection between the two.

The design team accommodated this and made the space feel more intimate by bringing the sides in and introducing a new balcony level, increasing seat capacity by 40% on the same footprint. Aesthetically, the design was informed by the idea of the auditorium as a musical instrument, with the contours of the balcony and ceiling inspired by the curved form of stringed instruments. Wood was therefore the obvious choice to line the walls and ceiling, with cherry selected for its visual warmth.

This volume then had to be tuned by the design team to provide the right acoustic.

‘In order to sound lovely for music, each surface has to temper the sound so that you have a smooth, even mix with no surface over-dominating,’ says Wright.

For the proscenium, this meant relatively plain surfaces to help project the sound into the auditorium while the balcony, as a significant intervention in the space, needed to have a gentle curvature to throw the sound up and down. Particular attention was paid to the detailing – the balcony front is made up of many thin slats,





**Left** Pendants reference the historical use of candles to light theatres.

**Below** 'Crystals' also sit within the articulated timber wall.

each indented with a 1mm quirk to add texture and further aid the diffusion.

As a large surface in a relatively small space, the ceiling had to be carefully detailed to avoid it over-dominating acoustically. Deeper structural elements were arranged to run front to back rather than side to side, since the latter would be too acoustically disruptive. Finer level surface details were used to avoid a large flat surface. The joiner built and acoustically tested 3m x 3m prototypes of the ceiling and articulated walls (see box, right).

Acoustic consideration was also given to the seating, with an array of 20 seats tested. A single pedestal, the Aida 125 from Figueras, worked best by allowing the sound to pass beneath more easily. Perforations were then introduced into the undersides of the seats so that when they are flipped up, unoccupied, sound can be better absorbed.

Ventilation was another factor – it was essential that the introduction of air to the auditorium was inaudible. Rather than putting a plenum beneath the seats, the solution was to incorporate a system of aerodynamic, high velocity jet nozzles into the balcony. Air is extracted at fly tower level.

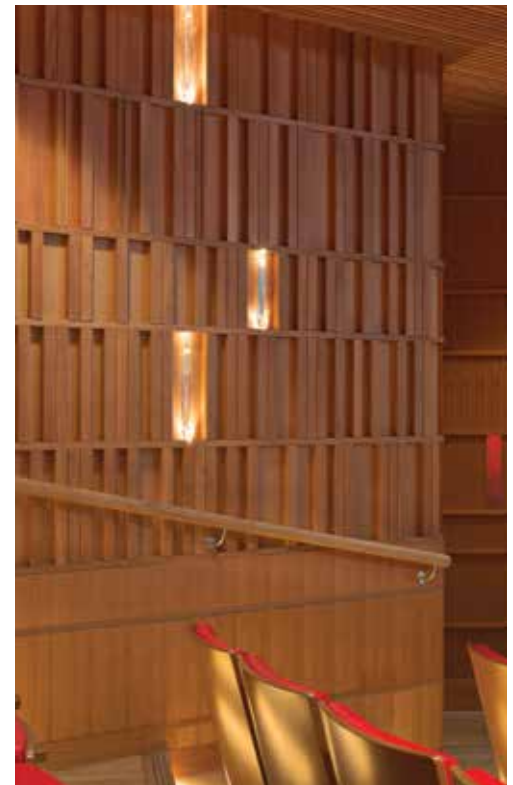
The second, smaller new space, the 230m<sup>2</sup> Angela Burgess Recital Hall, is also a recording room. It has been cleverly accommodated above the main theatre with a mansard copper roof designed to be invisible from the street. However this 6m high space still has enough volume to achieve a generosity of sound that connects the phases together. The hall is a structurally independent box with its own slab that sits on top of elastomeric bearings to acoustically isolate it from the theatre below. The entire room, including the acoustically rated, steel main fire doors, is clad in lime-washed oak, with a central glazed oculus. Above, a series of wood-clad radial steel beams in the soffit

act as reflective breaks to create a richer sound. Timber-clad wall linings stagger in and out to break up the perimeter surfaces, with articulations of 50mm and 30mm at the rear and sides respectively [see box]. The walls on either side of the stage are splayed to help project sound into the room.

In this small space, the audience is the dominant mediating effect. But the design team also had to consider the acoustic quality when it is used without an audience for rehearsal or recording. In response, they built in variable acoustic provision in the form of heavy, sound-absorbing wool drapes tidily tucked away behind panels in the rear corners. These can be pulled out and positioned individually or linked together along the side walls when required, while at the top accommodating the air supply nozzles along one wall. In this way, the space can be tuned to suit the occupancy.

The showpiece auditoria were part of a larger programme of improvements identified during the feasibility study, including new percussion studios and a jazz room. ●

Project team  
**Architect and principal designer** Ian Ritchie Architects  
**Structural engineer** WSP Structures  
**Acoustic consultant** Arup Acoustics  
**Building services** Atelier Ten (stages D-L); King Shaw Associates (stages A-C)  
**Main contractor** Geoffrey Osborne  
**Selected sub-contractors** James Johnson & Co Ltd (joinery); Quietstar (acoustic glazed screens); Safedoor (specialist acoustic doors)



#### SUSIE SAINSBURY THEATRE AUDITORIUM LINING

Great consideration went into the articulated surface of the cherry-lined auditorium wall which is broken up with vertical baton indentations to a depth of 50mm on the rear wall and 30mm on the side walls. The diffusion this achieves means it doesn't reflect too much sound back into the audience. While this is important in both operatic and amplified musical theatre modes, it is particularly significant for the latter.

With a degree of randomness required, the composition is conceived as vertical books on irregularly spaced bookshelves. Many configurations were considered for the latter, which emphasise the horizontal lines of the auditorium. This included an initial arrangement of 200mm and 300mm high spacings between the shelves, which proved too acoustically busy. The final version consists of five shelves with spacings akin to both novels and encyclopedias.

This arrangement was made by James Johnson Joinery, who also accommodated the 20mm diameter, 25mm deep LED lighting into recesses within the articulated timber lining. The fittings were housed within the horizontal banding and the wiring behind the panels. These lights are conceived as 'crystals' dispersed from the exploded chandelier lighting feature, and also reference the historical use of candles to illuminate theatres.

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# Specified



1



3



2



4

## 1 Heartfelt ceiling system Hunter Douglas Architectural

Disappointed by the recent KitKat ruling, confectionery distributor Brand Masters is secretly trialling a distinctive new multi-finger design in support of trading partner Nestlé. Cunningly disguised as 'Heartfelt' thermoformed PES felt ceiling panels, and apparently designed to fulfil all the functions of a metal ceiling but with impressive acoustic absorption of  $0.45-0.70\alpha_w$ , it is telling that our shots show only the seven greys offered, with no sign of the expected super-chocolatey Umber 7579 tone. [hunterdouglas.co.uk](http://hunterdouglas.co.uk)

## 2 Gypwall QUIET British Gypsum

There's Hall Place, Bazalgette's pumping station at Crossness – and London's longest pier. You'll find lots to see and do in Erith when you move into your new social rented property at Riverside Baths! After a busy day on the salt marsh, come home to Netflix and chill with British Gypsum, whose QUIET twin-frame acoustic system has an inner layer of Gyproc Habito-able to support the largest, loudest wall-mounted home cinema system you can find. Or why not nip across the busy A206 to the leisure centre? For a swim. [comfort-e-co.uk](http://comfort-e-co.uk)

## 3 Mobius invisible room speakers Amina

I recall when British speakers had to traipse all the way to Hyde Park – and even bring their own sturdy crate or stepladder. Now, though, we are pursued by the disembodied voices of those who would seek to persuade. Just look at this! The very image of the evil of this age. Luxurious finishes everywhere, not a cable or bulky cabinet to interfere with the interior's integrity – and yet, hidden behind the wall, the inescapable polemic of Insane Clown Posse can pervade every gleaming tile and silken thread. [uk.aminasound.com/speakers/](http://uk.aminasound.com/speakers/)

## 4 Gold metal fabric GKD

Sirs: Contrary to assertions, we did consider the bid tendered by Messrs Rumpelstiltskin and S Marnier, but determined that the modest scale of their operations would not satisfy the risk requirements for this contract. A two-man contractor (one partially sighted, the other 2ft 6in tall) tackling a concert-standard  $1,600\text{m}^2$  installation of gold powder-coated woven stainless-steel and aluminium acoustic fabric is simply not a secure proposition. For this reason we have awarded (as is our right under the terms of the initial RFP) to GKD. [gkd.de](http://gkd.de)

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# Architectural acoustics

Building acoustics has a significant impact on the health, wellbeing, communication and productivity of the occupants within a building. This is particularly significant in spaces such as classrooms, lecture halls, concert halls, recording studios and offices where the quality of sound and speech intelligibility are very important

**Five projects illustrate how H&H Acoustic Technologies have used a variety of solutions to meet specific acoustic requirements**

## 01 Warehouse conversion to corporate offices

Airbnb developed and fitted out an existing warehouse on Hanover Quay in Dublin to house their new European headquarters. The acoustic performance of spaces such as phone booths, meeting rooms and training rooms is critical for the health and well-being of employees and to ensure speech and intelligibility. The reverberations within these areas had to meet stringent criteria for office spaces including BS8233:199 Sound Insulation and Noise Reduction for Buildings.

To achieve the required levels, whilst maintaining the clean finishes required by Airbnb, Phonotrack® stretched fabric system was used extensively in these rooms, on both walls and ceilings. Phonotrack® comprises a plastic edge track that allows fabric to be stretched over large areas whilst minimizing the number of joints, ensuring aesthetics were to the client's requirements. The acoustic core was provided by Melatech® acoustic foam fitted behind the finished fabric facing. The installation was carried out by Buildtec Acoustics.



## 02 Corporate FTSE 100 reception refurbishment

A Global FTSE 100 company required a solution that provided the required acoustic performance level for controlling reverberation whilst maintaining the aesthetic finishes within the area being refurbished. The scope of works was to provide an acoustic solution to match the design requirements of the client for their reception refurbishment.

The solution was to provide acoustic baffles manufactured from a lightweight acoustic foam, Melatech®, and finished in a white Camira Lucia fabric. Each baffle is suspended from the soffit using foam corkscrew hangers that are screwed in to the Melatech® foam.

The final design, with a staggered pattern, helped both maximize the available ceiling space to increase sound absorption and provide an attractive environment when visitors enter the reception area. The installation was carried out by Officescape.



## 03 Refurbishment of a listed building

REDUC® Acoustic Flooring is designed and tested to provide the performance required when sound insulation between floors is expected to both meet and exceed Approved Document E. For this reason, REDUC® Foundation 35 and Foundation 39 structural acoustic floor boards were specified and installed in a prestigious redevelopment project in Covent Garden for the developer Cap Co.

The project consisted of part refurbishment of

## 04 Hospice communal area

A church-run hospice required an acoustic solution to improve the speech intelligibility and reduce reverberation times within a communal gallery.

Given the reduced area available for treatment, our Softsound® Designer panels were specified to meet key project requirements where the panels perform to the required acoustic standards whilst providing an attractive and colourful impact resistant finish. The finished panels are wrapped in an acoustically transparent fabric and fixed to the walls using a z-clip bracket to the rear of the panel. The installation was carried out by Buildtec Acoustics.



## 05 Secure environment

The new eco-friendly Wrexham Police Headquarters has been fitted with Tufsound® acoustic panels in the interview rooms throughout the new building. Tufsound® gives the benefit of the required acoustic performance ensuring any interviews and evidence gathered are clear and concise through the control of reverberation and improved speech intelligibility.

Tufsound® also offers the robust construction required for such environments as it is manufactured from perforated metal sheet which can also be powder coated to any RAL colour required to complete the aesthetic finish.



existing listed buildings and part new build.

This added further complexities to the sound insulation requirements as the ceilings in listed buildings can rarely be removed.

In total, 700m² of REDUC® Foundation 35 and Foundation 39 was used on this project that allowed all existing floors to be replaced with a product that can accommodate ceramic tiling as well as internal structural loads similar to those placed on standard flooring. REDUC® Acoustic Flooring was supplied by our distributor Trim Acoustics.

### About H&H Acoustic Technologies

H&H Acoustic Technologies offer design advice and have a track record of developing bespoke solutions for their customers' acoustic issues. Our products perform to the highest technical standards, complemented by rigorous attention to the visual impact and cosmetic finish that will ensure our products enhance the visual appearance a building.

H&H Acoustic Technologies is a leading manufacturer of acoustic products for the construction industry and has been in business for over 30 years. All our products are designed, tested and manufactured to the highest standards at our 40,000ft² facility in Corby, Northamptonshire.



[www.acoustictechnologies.co.uk](http://www.acoustictechnologies.co.uk)  
01536 270450



# How to make hospitals less horrible

'Horrible' is how a leading surgeon has described patients' experience of many hospitals. How can design help?

Words: Josephine Smit

Famous neurosurgeon and author Henry Marsh summed up his view of NHS hospitals in the title of his talk to best practice group Architects for Health earlier this year. It was called 'Why are hospitals so often horrible?' You get what he means. The waves of healthcare policy and procurement have brought successes and failures.

Months after that talk, Marsh is just as forthright. He is damning of PFI, says bay wards allow people little dignity and rest, and considers staff facilities to have been 'horribly neglected'. And while there are strong clinical arguments for the super-hospital, there are questions of how esprit de corps can be maintained. 'Today's big hospitals are like factories,' he adds.

For two decades Marsh was senior consultant in the Atkinson Morley Wing at St George's Hospital in Tooting, south London. He raised £130,000 to transform his ward's roof terrace into a garden, which has been given a makeover under his successor. It's a modest intervention enjoyed by staff and patients, but no one at St George's followed his lead. 'It was very unusual for a doctor to do it,' says Marsh. 'Managers and doctors have little knowledge of good design and that the investment pays back.' The process of commissioning hospitals, he says, is instead focused on efficiency and technology.

Over 70 years the NHS has progressed from 3,000 makeshift hospitals, run by local authorities and voluntary organisations, to today's trusts with their mega-estates. The latter occupy more than 1,200 sites and control more than 26 million m<sup>2</sup> of space, according to Sir Robert Naylor's review of NHS property and estates.

Some of the points highlighted by Marsh are being addressed: single rooms are replacing bays and there is an increased focus on staff welfare. But the NHS has to make far more radical change across its services and to its estate to ensure its future sustainability. A fundamental tension remains at the heart of healthcare, Marsh says: 'The underlying problem is that all medicine is a difficult balance between detachment and compassion.'

## Not that big, but very clever

There may be a global trend towards super-hospitals right now but that's not what we could be building in the UK. Justin Harris, studio principal with IBI Group, says, 'We'll see smaller, more focused, more digitally enabled hospitals, delivering highly specialist care, with the greater emphasis on care shifting to the community.' IBI's new Chase Farm Hospital, an acute facility for the Royal Free London NHS Foundation Trust due to open later this year, will provide an urgent care centre, in-patient unit, day surgery and other facilities in a fairly efficient 20,000m<sup>2</sup> of floorspace. It includes four barn-style theatres, an innovation that first started making its way into the UK in the 1990s, where procedures are carried out in an open plan area with multiple operating tables, albeit with an ultra-clean air canopy over each to limit spread of infection.

But one barrier to downsizing could be client convention, Paul Whittlestone, IBI's global healthcare lead, warns. 'We know we shouldn't have as many beds in the future, but right now

every hospital is under bed pressure, so they continue to build old-fashioned bed space. We should be building to save, rather than building to replace inefficient accommodation. Every time we have the opportunity to build a new hospital, it should offer a new way of delivering healthcare – not take forward the old model of care.'

A conflict between the rapid pace of innovation in medicine and technologies and the lengthy gestation of developing a healthcare facility makes it hard to design in future flexibility. 'We need to be realistic,' says Whittlestone. 'We need to dislodge from our mind the idea that we can build a hospital to last 70 years. We can build a flexible structure, and the building might be repurposed every decade or less.'

Digital innovation can be relatively easily integrated into buildings, and facilities in north America show how it can help manage

**Below** IBI Group's Chase Farm Hospital for the Royal Free includes four barn-style operating theatres with multiple tables.



hospital services and patients more efficiently. Johns Hopkins Hospital in Baltimore, USA, and Canada's Humber River Hospital have both established control centres to manage patient safety, experience, volume and movement. Humber River's 400m<sup>2</sup> command centre resembles a city broker's office with staff monitoring banks of screens to prevent or resolve bottlenecks. Whittlestone predicts that such centres will be in every UK hospital within a decade.

Innovation has been linked to reduced human interaction, whether in digital welcome points or the potential for robot carers, but there is a counter argument that it will free nursing staff from paperwork, says Whittlestone. It could also improve the patient experience and inform design, says Jonathan West, healthcare research leader of the Helen Hamlyn Centre at the Royal College of Art. 'Because the science of care has been so revolutionary and we are surviving for longer, there is more emphasis on patient experience. More evidence is being gathered about how experience affects outcome.' The centre is prototyping an app, called Senso, to help patients in intensive care units (ICU). The app allows patients to create a mood board of images and videos of their favourite things, providing reassurance and stimulation in a setting that is, of necessity, highly clinical.

### The human dimension

At London's Great Ormond Street Hospital (GOSH) patients are directly influencing the future of hospital design. Its upcoming phase 4 clinical building, designed by BDP, which has a new street frontage in four houses, linked by winter gardens, is the result of patient consultation. 'We were puzzling over how to write the brief. The landscape changes quickly in healthcare so we didn't want to get hung up on the functional content,' explains Stephanie Williamson, deputy director of development for GOSH. 'So we sat down with a group of 14-24-year-olds to develop the visual metaphors for what they wanted the experience of being in the building to be like.'

The approach has been extended to GOSH's next project, the Great Ormond Street Hospital Sight and Sound Centre supported by Premier Inn. This will see the conversion of a grade II listed building to a ground-breaking facility for children with sight and hearing loss,



**Left** Site of the Great Ormond Street Hospital Sight and Sound Centre supported by Premier Inn.

co-designed with patients. 'We had a workshop with young people, such as nine-year-old Josh, who is visually impaired now – and by the time he is an adult will experience significant hearing loss too – who told us about the challenges of their conditions,' says Williamson.

The workshop generated a set of principles, which has informed Sonnemann Toon's design. The centre will house specialist facilities, such as audiology, cochlear implant and ophthalmology, in a less clinical interior environment than is the norm, with natural finishes, more intuitive wayfinding and specially commissioned artworks. It can be summed up as a 'living room concept', she says. 'Families said they wanted the centre to be like coming to a really grand home, where you happen to go for a treatment.'

This focus on people should extend to all who come into contact with the hospital, says Williamson. 'We now look for the hospital to be embedded in the community. Passers-by need to have a glimpse of hospital life and people waiting in the hospital need to have views out.' GOSH's tight London site gives it ample opportunity to do that, but also presents challenges, particularly in tackling urban air quality, Williamson points out.

We have the know-how to address sustainability demands like these says Penoyre & Prasad's Sunand Prasad. 'In the NHS energy use is very high and there are vulnerable people in

the building so comfort criteria need to be respected more diligently. We know how to build zero carbon and nearly zero net energy buildings, and now our focus needs to be on adopting circular economy principles. All of this presents technical challenges for hospitals, but none of this is insuperable.'

Having worked on healthcare projects from Brighton to Belfast over the decades, Prasad has been part of a transformation in healthcare design. 'The NHS has gone from "doctor knows best" to regarding patient knowledge and feelings as part of the therapeutic process,' he says. 'We were among the pioneers in finding the equivalent of that in design, looking at how a building can aid the recovery process.'

And yet today's delivery processes, with contractor-led procurement and the client project manager, often keep architects at arm's length. The NHS hospitals delivered to date show a need for a rethink on long term value, says Prasad. 'PFI was supposed to do that but it failed, and it failed to deliver good design quality. We could be investing additional capital in order to secure revenue benefits later, but the mechanisms don't exist for that to happen.'

IBI's Whittlestone sees scope for clients to be better informed, with architects helping that process. 'My overarching view is of missed opportunities,' he says, a point illustrated by his colleague, who says one client's target aspiration for their project was a Travelodge.

As a knowledgeable client with a significant development programme, GOSH shares its expertise with other hospitals to try to raise aspirations and expertise. Williamson also encourages young architects to work with the sector as lead director for Architects for Health's Student Design Awards and through her work at GOSH. 'Healthcare is very constrained by guidance, but most of that hasn't been updated for a while and so many clients have moved on from that. There's an opportunity in the sector for architects who can bring creativity, but as clients we have got to be courageous.'

And for their part, architects need to engage with NHS reality, Williamson argues. 'The architect has to be willing to immerse themselves in the experience of healthcare, to shadow the surgeon in the theatre,' she says. It looks like, just as in the past, policy and the delivery process will continue to shape the health estate. ●

**'We need to dislodge from our mind the idea that we can build a hospital to last 70 years'**



# Glazing that makes a splash

Fineline reprised a successful partnership with architect Marshall and Kendon at the glass-walled Reading Spa refurbishment project



**Opposite** Panoramic view of the central swimming pool, eating area and bar.

**Below right** The opening corner provides access from the sauna rest area to the poolside.

**Bottom right** Elevation highlighting the two storey fixed and sliding panels.

Having worked with architect Marshall and Kendon on the Clifton Lido, Fineline was asked to help with the development and design of the glazing to be installed on a listed spa building in Reading. Following the transfer of the building and land from local authority to private ownership, the project has taken over three years to complete. The complex containing a new health spa, swimming pool and restaurant was opened in 2017 after extensive renovation and alterations that included design changes.

The architect had selected Fineline System 22 – the original choice for the Clifton Lido. The principal requirement was for two storey glass doors of 2.6m each, spanning 40m, which would tie back to the steel beamed infrastructure that separated the sliding and fixed panels from the listed building.

In the main area of the restaurant, café and swimming pool the designed glazing panels were to surround three sides of the pool. Two opening corner details at the health spa and café/bar allowed easy access to the pool and walkways. The double height glass panels were staggered alongside the pool and bar area, allowing the system to run on two tracks. While ground floor panels incorporated fixed and sliding doors along the poolside, the first floor glazing was fixed; the design mimicking the staggered ground floor panels.

Installation created many challenges. Access to the central area was limited due to the pool's central location, drainage, overhanging roofs

and only 1200mm of space between the front of the glass panels and the pool edge. As the limited access meant it was impossible to use a mobile lifting crane, Fineline's own crawler crane was employed to move the glazed panels. To locate the frames at each level a special bracket was designed that would bolt to the I beam above. This, combined with the lifting hoist process, allowed the glazing to be moved along all joints in the steelwork and put into position. These brackets have been left in place to assist any need for repair or adjustment at a later date.

During construction, the nylon packers used for the base of the sliding doors started to expand by over 10mm due to direct sun exposure. This was overcome by the project manager, Tony Gilliam, engineering a solution on site. The design included first floor sliding windows for the principal entrance area, office and conference rooms, standard sliding panels in the corporate area and double two way pivot doors for the principal entrance lobby and ground floor offices.

Architect Sam Kendon, who had worked with Fineline on the Clifton Lido, required specially designed drainage details for the poolside. This worked extremely well, resulting in minimal issues on site. Reuniting the teams, including the same contractors, helped ensure the conclusion of a successful project.

Fineline always strives to supply the best advice on design and installation and continues to increase its expanding portfolio of projects in the commercial sector. ●



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# Preston Bus Station, Lancashire

Brutalist buildings are not always loved by the people they were built for but this one is, and its modernisation has been suitably respectful

Words: Jan-Carlos Kucharek Photographs: Gareth Gardner



If there is any example of a brutalist building being taken to the hearts of the residents of a city, then it is Preston Bus Station. In 2010, 40 years after BDP's original design was completed, locals voted it their favourite city building in the Lancashire Evening Post, which may have helped in a later planning battle that could have seen it demolished before it won grade II listing in 2013, after an appeal by the Twentieth Century Society. One of the first major buildings of a fledgling BDP, the imposing 190m long structure, with its distinctive GRP-cast concrete parapets, had long fallen into disrepair. In 2016, Lancashire County Council ran an RIBA competition for its renovation.

Young practice John Puttick Associates won this with its £5.5m proposal to restore the bus station while reconfiguring its west side to make it more user friendly. As part of a £23m funding allocation that included work to the car park above the bus station, and concrete remediation, it also proposed a public plaza

**Above** The west side of the bus station has been reconfigured as a waiting area looking out over the new public plaza, allowing the architecture to be fully appreciated.

**Above left** The old taxi stand now forms part of the 24-hour Coach Station to the south – updating the original programme.

connecting back to the city centre as well a new youth centre on the north side – all part of Preston's wider regeneration.

Puttick says the brief asked for public space but gave no directive as to how it should be achieved, and he feels the proposal to reconfigure the area west of the station as a public square to connect it back to the city could have clinched it for the practice.

'With bus aprons originally on both sides of the building people were relegated to accessing the bus station via subways – it was effectively

an island – with the result that most people took their chances by running over the west bus apron to get to it,' says Puttick. 'The reconfiguration of the station's west side and the new public square completely changes that.' It also rationalised the functioning of the station in one big move. 'In order to improve the user experience and bring people in we moved the buses onto the east side and increased the waiting areas to provide more amenity.' In a sense this consolidation guided the whole renovation of the bus station as it freed up original materials, such as rare iroko timber, to form new elements in the refurbishment.

Puttick's first task was to replace the facade, which partly decayed; this was no small feat. The original upper mill finished aluminium mullions were badly corroded as was the structural horizontal band running all the way around the building. Below this, the original heavy timber sliding access doors to the bus apron were in such a bad way that wholesale





replacement was the only option. 'We pored over the original BDP drawings and tried to match to the original as much as possible, but we were also constrained by structural and modern wind loading requirements and practicality,' says Puttick.

All the replacement mullions are identical in profile but are now anodised rather than exposed metal sections. Similarly, with the doors, the decision was made to install automatic sliding aluminium versions that only activate once a bus has pulled into that part of the apron. These have been bronze anodised to match the colour of the original timber ones as closely as possible.

As for the horizontal band running above the doors and supporting the glazed cladding, the job was about more than just reinstating the original backlit panels with their classic British Rail font – it was about making the whole section work harder. After the original deep moulded concrete soffits were cleaned, Puttick decided this section could be used to uplight them invisibly, a key change from the original low lux level pendants that had hung from the soffits before. Now a wash of LED light bathes the whole bus station area,



**Above** Insertions such as the reception pod use the lighter language of steel and glass but also repurpose the original iroko barrier boards.

**Left** The east side of the station has been refurbished and rebooted.

making it highly prominent at night, which has had a fundamental effect on perceptions of security for users. 'If we had done nothing else but improve the lighting, that in itself would have made a huge difference to the user experience of the bus station,' Puttick says.

He admits that the exposed nature of brutalism means it was always difficult to hide services, resulting in large amounts of galvanised trunking running throughout. The design team tried to incorporate as much as possible into this zone: 'It's not just lit signage, the new arrangement also includes the PA system and a whole load of other electronics and services – the detailing of this middle band is now working really hard to deliver all the services required by a modern bus station.'

It's different on the outside too, with the original timber fascia boarding removed and replaced with a deep blue PPC profiled aluminium cladding system, a nice backdrop for the new, simple 'Bus station' illuminated sign in that signature font.

The original spine running through the building, containing shops, admin areas and toilets, had always been dense and separated the east and west sides of the bus station. Puttick felt it should be opened out from its 3m wide corridor to allow for an effective internal orientation space. Thus on the south side a large 17m x 25m space has been carved out, which also delineates the smaller coach station area from the bus station proper. Here, the firm inserted a new pod structure to act as an information point for travellers. This is formed of double glazed back-sprayed glass and steel sections designed to counter the solidity of the rest of the building; to read as a later insertion rather than part of the original.

That said, it proved to be an excellent opportunity to reuse some of the iroko barriers

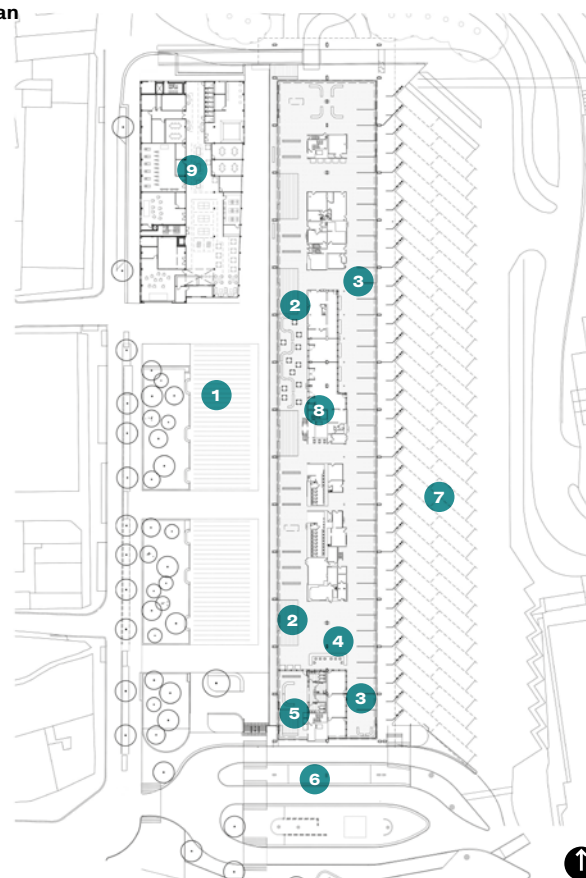
If we had done nothing else but improve the lighting, that in itself would have made a huge difference to the user experience

**Site plan**

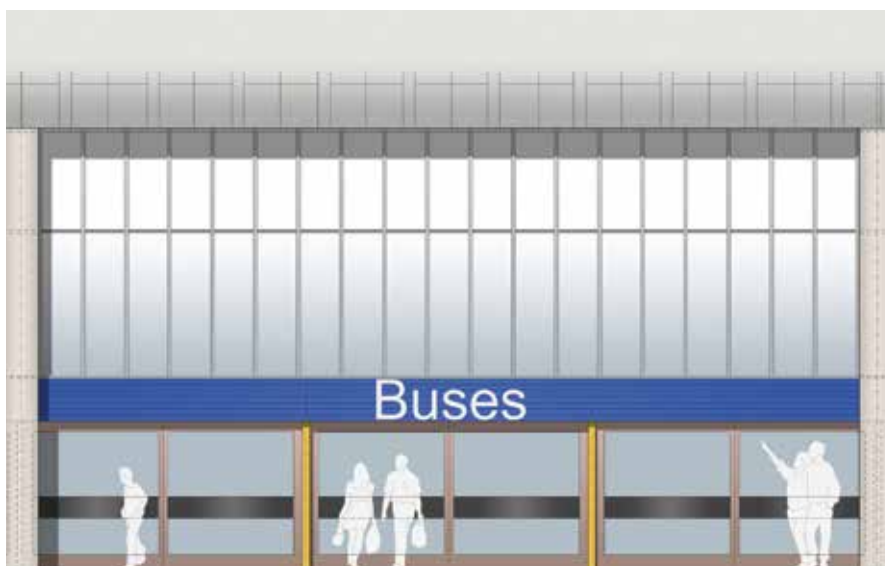


- 1 West public plaza
- 2 Reconfigured west 'waiting zone'
- 3 Bus station side
- 4 New reception/orientation zone
- 5 24 hr coach station
- 6 Coach station access and bays
- 7 Bus apron
- 8 Service spine
- 9 Proposed youth centre

**Plan**



**Facade detail**







salvaged from the west side of the station, which are now used as ledges for the service desk window openings.

The iroko appears again in the decluttered west side of the station, now an extensive internal waiting area, where it forms simple bench seating – well used on the day PIP visited. The cleared space also allows for greater appreciation of the refurbished black rubber Pirelli flooring. Where panels had perished, they were replaced by those released from the zone below the new reception pod. Similarly, Puttick notes that broken tiles on the spine walls were replaced like for like, new ones supplied to match the originals by specialist Phoenix Tiles. The spine's painted timber doors and ironmongery were replaced with laminated doors and HOPPE ironmongery as close to the original as possible.

The main move in the spine was to reconfigure the toilet entrances to face out rather than onto a corridor, allowing easier access. New lower level retail units are clad in single

glazed proprietary aluminium system, anodised black to match the existing units and refurbished black timber cladding of the upper level bus station admin area. Seen together, all the small moves have together created a greater sense of clarity and legibility for the spine.

Sometimes refurbishments reduce modern buildings to a shadow of their former selves, but this is not one of those occasions. John Puttick Associates' work has stayed faithful to the original spirit of the design but adapted and upgraded it for modern transport users and, in doing so, has improved on the original's municipal and civic nature. With most public building nowadays relegated to a financial deal between planners and the private developers, such qualities are easily lost in the horse-trading. Not here. In Preston the notion of the terminus is being celebrated with a sense of nobility rarely seen these days, and both designer and client should be commended for their evocation and extension of the original vision. ●

**Above left** All the original iroko timber has been refurbished and reinstated. Broken tiles have been replaced and laminated doors replace timber ones.

**Above** Upper level glazing with timber mullions has been stripped back, restored and repainted.

#### Manufacturer credits

**Sliding door driver** Horton Automatics

**Aluminium framing** Technal

**Ironmongery** HOPPE

**Ceiling tiles** Ecophon

**Dry lining panels** Fermacell

**Carpet** Forbo

**Wall & floor tiles** Johnson Tiles

**Sanitaryware** Lovair

**Seating** MCI Interiors

**Change machines** Thomas

**WC cubicles** Thrislington

**Spine retail glazing** AW Glazing

**Ceramic tile repair** Plastic Surgeon

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# Specified



**1**  
**Andersen Collection Windows**  
**Black Millwork**

'Oh, I know: townhouse problems! Thank god for safety anchors! Quentin was twirling around on the end of his climbing rope - you know, the stripey one we got on that Chamonix trip - arms and legs all flapping, brandishing his mop and bucket like Don Quixote. The children on the open-top bus thought it was funny till the handle broke. So now we have these Andersen collection windows from Black Millwork. Look! They pivot so you can clean from inside. Quentin's finally put his back brace in the attic!' [blackmillwork.co.uk/](http://blackmillwork.co.uk/)

**2**  
**Airport barriers**  
**McCue**

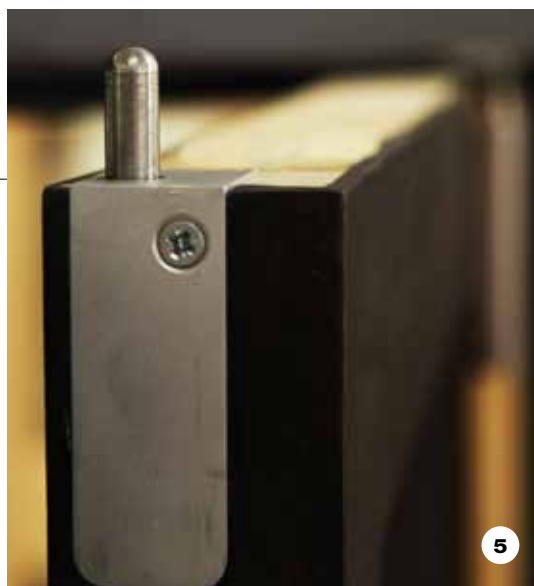
Anish Kapoor's chutzpah is starting to grate. First he snaffles exclusive rights to my black heart's desire, and then he embarks on the Banksy-like creation of these 'airport barrier' installations, now sprouting like mushrooms in baggage-transfer areas across the UK. Kapoor performs this covert work under the pseudonym 'McCue', but that fools nobody. This 'diffusion line' is plainly a brazen dig at Black 2.0 inventor Stuart Semple, still smarting after being denied the chance to experience the uniquely absorbent properties of Vantablack's carbon nanotubes. [mccue.com/uk](http://mccue.com/uk)

**3**  
**Ansi door hardware**  
**Allgood**

'It was not recognised until the second decade of the 20th century that the numerology of door hardware in Allgood's downloadable Ansi door fittings range chart is that of the items' atomic numbers, the integers of which are equal to the positive electrical charges of the atomic nuclei expressed in electronic units. Latterly, great progress has been made in explaining the fully co-ordinated door furniture and ironmongery in terms of the electronic structure of atoms and molecules. BECAUSE SCIENCE.' - Encyclopædia Britannica [allgood.co.uk](http://allgood.co.uk)

**4**  
**Secure doors**  
**Origin**

At Mordor Corp, we take pride in our future-facing positivity. So when CEO Dave Sauron commissioned Group HQ's rebrand, he specified these secure TR 02 aluminium doors for both main gate and chariot yards. 'They're the perfect lightweight representatives of our commitment to a customer-friendly image and modern excellence benchmarks while evoking the Corporation's ancient heritage,' Sauron said. 'O, You shall be broken on my will, though you all were made of steel.' [origin-global.com/doors/front-doors](http://origin-global.com/doors/front-doors)



5



6



7



8

**5**  
**Twinbolt concealed locking system**  
**PC Henderson**

If, like me, you've ever been caught out by the visible surface-mounted flush bolts on your exterior doors, you are simply going to love the new concealed Twinbolt system. Kits for top hung, bottom rolling, mortice and non-mortice applications take any euro cylinder lock, all with a generous 22mm throw. A word of caution, though: first, make sure you hide the keys really well. Second, if your captive is fresh and recently fed, you'd be well advised to specify Henderson's high security Securefold Ultra doors too for peace of mind.  
[pchenderson.com](http://pchenderson.com)

**6**  
**Stormframe STII hinged door**  
**Sapa**

The Doctor frowned and tapped the aluminium frame. 'It's not a 1929 model, wasn't designed by Gilbert MacKenzie Trench, doesn't have receptor antennae, magnetic field dispersal rods, an earthshock bomb station or reverse gravitational field generators. But I'm seeing multipoint master leaf electromagnetic locking, dual deadlocks, a low U value, and panic exit devices. That continuously drained threshold might come in handy next time we materialise in water, too. You take Gallifreyan Pandaks, I suppose?'  
[sapabuildingsystem.com/en/uk/](http://sapabuildingsystem.com/en/uk/)

**7**  
**Powershield and Prima doorsets**  
**ASSA ABLOY**

ASSA ABLOY may have met its match in providing 'Powershield' and 'Prima' doorsets for the 10 new Crossrail stations. Fire safety, acoustics, air-tightness and security were all on the checklist, and vitreous enamel, stainless steel and bronze finishes match each solution to its setting. Accessibility was of course another key consideration in the development. The company have yet to comment on provision for the 8,000 corporeally abled passengers passing through from the old Bedlam burial ground.  
[assaabloy.co.uk/Security-Doors](http://assaabloy.co.uk/Security-Doors)

**8**  
**XT stair edgings**  
**Gradus**

This is a story of two worlds. One, in a foyer of Hull University, that we know, and another that exists only in the mind of a breezy young airman whose life and imagination have been shaped by war. Do you sense him? An as yet unseen David Niven in his RAF fatigues, tapping out the rhythm of his love in nifty dance upon the aluminium XT edgings of those eternal stairs. Without the roughness of their wrap-round Xtra-grip Plus inserts, he might never keep his footing with such moves. 'A matter of life and death,' indeed.  
[www.gradus.com](http://www.gradus.com)



# Costed

## Gleeds’ Lucy Vencatasamy-Jones on door, window and ironmongery costs

Doors and ironmongery typically represent 1-3% of overall construction cost. Their performance, however, is scrutinised daily by building occupants and their maintenance is a significant expense. Damage that affects access or security demands a fast response.

It is important to evaluate the cost of any building component from a whole life cycle perspective. This looks at the total cost of ownership, including the initial purchase, operation and maintenance, and eventual disposal.

Trends in window and door procurement are mainly driven by energy efficiency demands, high performance values and security aspects.

The growth in outdoor living has, however, created a demand for opening glass walls and lift-and-slide doors, as well as larger windows mulled together. Vinyl multi-panel units have gained popularity, as have higher-end materials such as white oak or mahogany. Traditional pine and metal have slowly declined in popularity.

Materials prices in general rose by 4.8% between Q1 2017 and Q1 2018, which is likely to have been driven by the fall in the sterling exchange rate. The price of ironmongery fell by 1% in Q1 2018 (ONS).

With the general increase in energy prices, and the trend towards more sustainable

construction, performance measures such as U-values have become more important. Part L of the Building Regulations specifies a ‘limiting fabric parameter’ (U-value) for windows, roof windows, glazed roof lights, curtain walling and pedestrian doors as 2.00W/m²K.

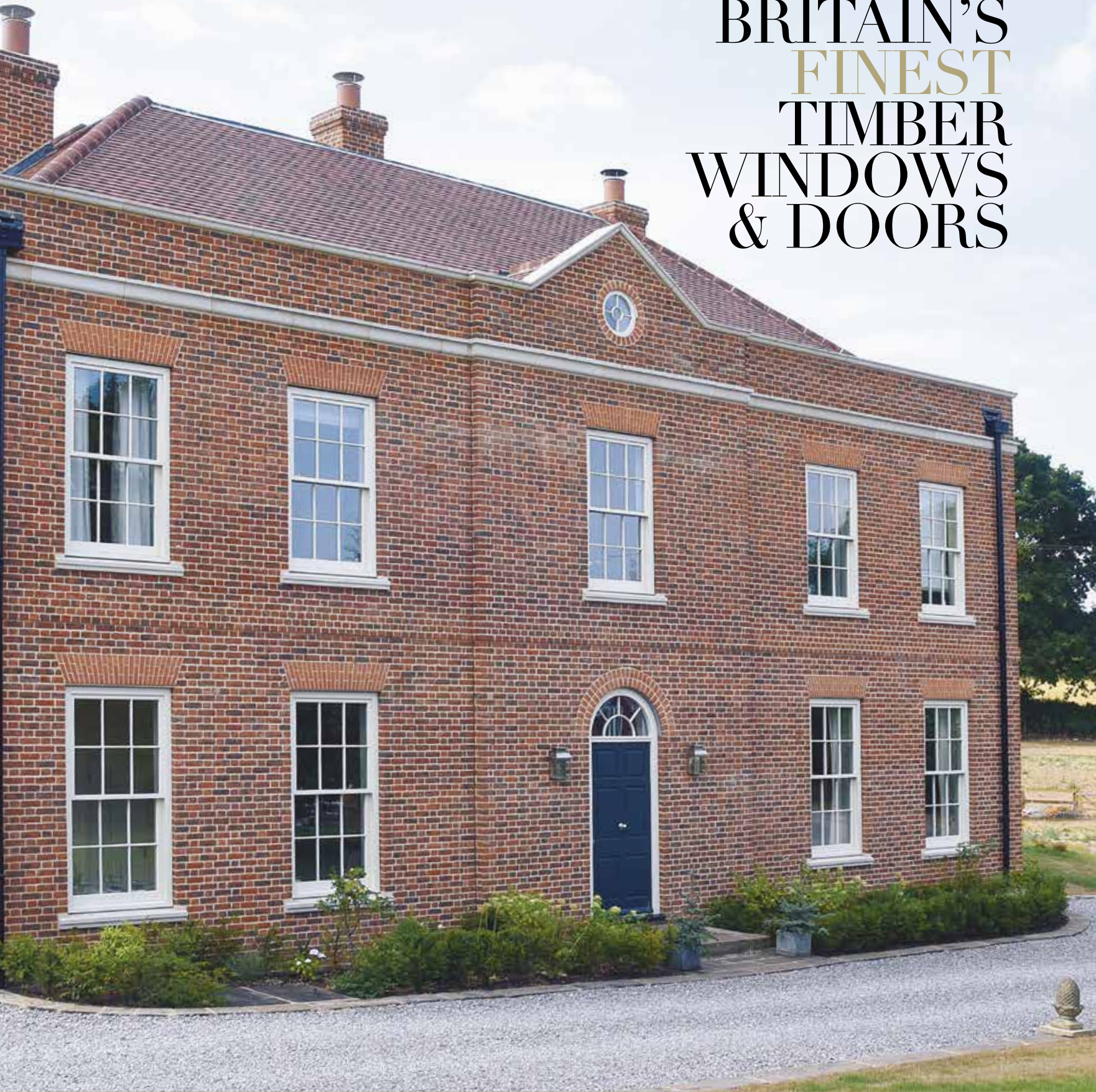
Development of new products tends to be influenced by fashion, legislation and demand for specific technical requirements. The market is strikingly polarised. The lower end continues to feel downward pressure on prices due to an increase in use of imports. Demand for high-end specification using high performing materials from sustainable sources is equally present. ●

The rates below are a guide to window, door and ironmongery costs as at 2018 Q3. No allowance is made for sundry or related preliminaries. VAT is excluded.

Range £/unit	Range £/unit
<b>WINDOWS AND EXTERNAL DOORS</b>	
<b>Hardwood windows (U-value = 1.4W/m² K)</b>	
Standard/purpose made windows; stained, double glazed	255 -1950/1245-2695
<b>Steel windows (U-value = 1.6W/m² K)</b>	
Standard windows double glazed; powder coated	810 -2025
<b>uPVC windows</b>	
Standard ironmong; sills + factory glazed std low-e 24mm dble glazing	375 -1630
<b>Composite aluminium/timber windows (U-value = 1.5W/m² K)</b>	
Purpose-made windows; stainless steel ironmongery; Velfac System 200 or similar fixed up to 1.50m²/over 1.50m² up to 4.00m²	1060-1135/ 1470 -3120
fixed windows with interstitial blinds	770 -1060
outward opening pivot windows up to 1.50m²	475 -1510
purpose-made entrance screens and doors double glazed	1910 -7130
<b>Softwood external doors</b>	
Standard ext softwood doors and hardwood frames; doors painted; inc ironmongery	
Matchboarded, framed, ledged and braced door, 838mm X 1981mm	580 -900
Flush door; cellular core; plywood faced; 838mm X 1981mm	570 -670
Heavy duty solid flush door single leaf/double leaf	850 -2195/1005 -3450
<b>Steel external doors</b>	
<b>Standard doors</b>	
Single ext steel door, inc frame, ironmongery, powder coated	795 -1440
Single ext steel security door, inc frame, ironmongery, powder coated	1110 -2090
Double ext steel security door, inc frame, ironmongery, powder coated	2170 -5370
Overhead doors, generally	3550 -5060
<b>uPVC external doors</b>	
Entrance doors; residential standard; uPVC frame; brass furniture	
all sizes with glazed side panel	1610 -10880
Purpose-made doors	
Glazed sing/dble personnel, stainless steel ironmg; Velfac System100 or similar	1040 -1770/pair 2010 -4010
Revolv; 2000mm dia 4 clear laminated glazed wings & curved walls	28740 -34350
Automatic sliding door; bi-parting	6920 -21290
<b>INTERNAL WALLS AND PARTITIONS</b>	
<b>Stainless steel entrance screens and doors</b>	
Purpose-made screen; double glazed with manual doors	1625 -2360
automatic sliding door; bi-parting	6920 -21290
<b>Shop fronts, shutters and grilles</b>	
Purpose-made screen – flat facade; glass in aluminium framing; manual centre doors only/grilles or shutters	625 -3260/3225 -12760
<b>Automatic glazed sliding doors</b>	
Aluminium; polyester powder coated; linear sliding doors; inner pivoted pocket screens; glazed with safety units in accordance with BS	
Opening 2.10m x 2.10m	7270 -16900
<b>INTERNAL DOORS</b>	
<b>Standard doors</b>	
Cellular core; softwood; softwood architrave; aluminium ironmongery (latch only)	
single leaf; Sapele veneered finish	290 -610
<b>Purpose-made doors</b>	
Softwood panelled, softwood lining; softwood architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
single leaf/double leaf; four panels; mouldings	270 -925/540 -1765
Hardwood panelled; hardwood lining; hardwood architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
single leaf/ double leaf; four panelled doors; mouldings	265 -1540/590 -2225
<b>Fire doors</b>	
Standard fire doors; cellular core; softwood lining; softwood architrave; aluminium ironmongery (lockable, self-closure); painting or polishing	
single/double leaf; oak veneer; 30 min fire resist; polished	340 -1990/670 -2070
single/double leaf; oak veneer 60 min fire resist; polished	340 -975/750 -2090
<b>Ironmongery sets</b>	
Stainless steel; euro locks; push plates; kick plates; signage;	
closures	165-270
<b>Overhead doors</b>	3550 -5060



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# Plan ahead for acoustic control

Make acoustic planning part of early window specification, says VELFAC glazing, and avoid design or budget compromise once your project is underway

Increased building density, and more inner city development, is driving a need for even better acoustic planning and control especially for residential projects. Whether caused by neighbours or road traffic, barking dogs or passing aircraft, unwanted noise can blight a neighbourhood, causing annoyance, loss of sleep and unwanted stress.

The right glazing is key to effective acoustic control, but specification must be guided by expert consultancy right from the start of the project. For example, an early analysis of both decibel levels and frequencies – for every facade – can ensure both precise and cost-effective sound reduction for the building as a whole. Early stage consultancy will also confirm whether the glazing solution proposed meets not only

project-specific acoustic reduction targets but also external benchmarks, such as WHO internal sound standards, thereby reducing the risk of inaccurate specification. Project-wide acoustic impact analysis is also crucial. This considers the impact of acoustic glass on a variety of other criteria, such as thermal insulation or solar performance, and on project budgets, to ensure the glazing specified delivers best value for money. Any acoustic analysis must also take ventilation into account, and consider the use of relevant additional products such as an acoustic trickle vent.

Proven acoustic performance is vital when considering product options. Glazing suppliers must provide test data for the unit as a whole, not just the glass, as the sound-reducing effect

of a window depends on both the glazing construction and window size, sash, frame and joint sealing. The VELFAC aluminium / timber system, for example, is third party tested to ensure accurate acoustic performance data across the unit, allowing even greater precision during specification.

Early consultation can therefore ensure acoustic targets are achieved without the need to reduce thermal insulation, for example, increase budgets or subdivide larger window units thereby impacting architectural vision. Acoustic control is just one of the consultancy services window suppliers should offer architects and specifiers, to make sure that the glazing system installed meets performance targets and delivers design goals.

## Case study: Dalston Lane

The VELFAC system has been installed at Dalston Lane, the world's largest CLT (cross laminated timber) building. VELFAC supplied full-height glazed units, punch-hole windows and glazed doors for both residential and commercial units, with the system specified for its high performance features, contemporary design, and sustainable construction. 'Dalston Lane is an ambitious project, and we knew that VELFAC could meet our challenging performance and design criteria,' explains David Lomax, Senior Associate at Waugh Thistleton Architects. 'Excellent acoustic control was a priority, for example, as the site is surrounded by transport routes, including a railway line. We specified a mix of double and triple glazing across the build, and also installed both standard VELFAC vents (concealed within the slim frame) and acoustic trickle vents.'

Double and triple glazing features standard and acoustic VELFAC trickle vents.

DANIEL SHEARING (2)





Balconies are accessed by VELFAC casement doors



**Left** Excellent acoustic control was a priority at Dalston Lane.

### Case study: Catford Green

The ambitious Catford Green development, from Barratt London, meets a significant need for high quality housing that local people can afford. Competitively priced VELFAC glazing, installed across the 600 apartments which make up the estate, enabled Barratt London to deliver a range of high performance benefits for residents. Dean Hurrell, Senior Technical Manager at Barratt London, had already used VELFAC in other developments and so was familiar with the quality of the system, and with the technical support provided by the VELFAC team. For Catford Green, VELFAC was also the most cost-effective glazing option, Hurrell comments: 'We could meet our performance requirements, especially regarding U-values, with standard VELFAC units, and we could also achieve the level of acoustic protection we needed.' This was vital as Catford Green is built on land between two railway lines, and VELFAC supplied an acoustically attenuated trickle vent as an integrated part of the window system.



**Above** Standard VELFAC units met the acoustic brief at Catford Green.

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# The Ministry, Southwark



Walking through The Ministry in Southwark is a pleasantly confusing experience. Billed as the first social workspace and private members club for creative industries, the project is housed in the former Letts diary 1860s printworks. But the lavish 4,729m<sup>2</sup> refurbishment is easily overlooked. That's because client, mega-club Ministry of Sound, landlord, Lord Palumbo, and architect, Squire and Partners, conspired to leave as much as possible of the original interior intact. They call it 'premium raw'.

'But there was a difference between raw and dirty and shabby,' observes Squire's interior designer, James Halliday.

The original sliding metal doors were simply cleaned and the brick walls carefully treated. Wooden floorboards were denailed and stair cores left the very rawest; the terrazzo of the balustrades stripped of paint and the walls just filled and sanded. Doors leading in show the palimpsest of paint jobs over the decades.

Restoring the space in a way even Ruskin might have approved of was more work than simply plastering and painting over, adds associate Cat Farrell. Decorators would paint a wall when their backs were turned, so the team had

to post notices saying 'this is finished!'

But it's only the palette that's raw, of course. None of the 850 tenant workers, whether in large wings or smaller partitioned offices, will sit on tea chests at trestle tables. The multi-floor workspaces are dotted with ergonomic chairs set at sprawling desks. Communal workspace areas feature gorgeous bespoke rugs, velvet sofas of bottle green and topaz and luxuriant plants. These are set next to veneered tables set with 60s-style chairs. The cognitive dissonance is most extreme when, from a shabby corridor straight out of a shared Berlin creative studio, you catch a glimpse of high-end bathroom ceramics.

Where interventions have been made, they are simple and sober: subdivided company offices and meeting spaces have almost Japanese-style glazed partition walling divided into four by battens, clear at the top with Georgian wired glass at the bottom. Services to the desks are carried in scaffolding poles which give the appearance of being a structural element.

Some of us have more fun at work than others, and the Ministry's music industry tenants, Skrillex and deadmau5 among them, will



**Top** Co-working space.  
**Above** Japanese-style partitions, in glass, form offices and meeting rooms.

## The palette is the only thing that's raw about this refurbishment of an old printworks as a members' club and co-working space

Words: Michael Willoughby Photographs by James Jones

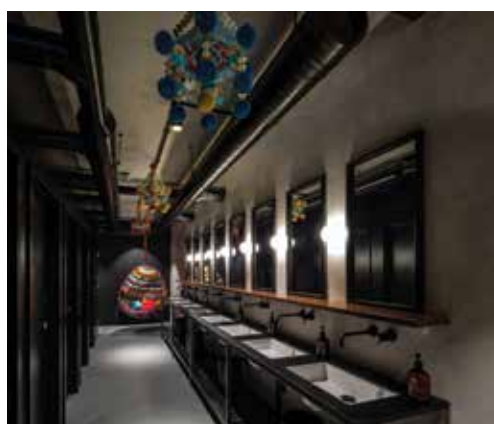


**Left** Plush sofas are a counterpoint to the otherwise raw finish.

**Below left** Stair cores are some of the rawest spaces.

**Below right** Lavatories reference 'nightclub' more than 'workspace'.

**Bottom** The bar on the ground floor is faced with bronzed scaffolding poles.



certainly appreciate the foam-lined listening booths, virtual reality studio and private cinema in the basement.

But the Ministry isn't all about work, work, work. There is a club on the ground floor, with a long poured-concrete-topped bar faced with bronzed scaffolding poles. On the walls is art work from the House of Fine Art, including a vast, black, highly textured oil painting, yours for £6,000.

If club members need to do deals, they can encircle themselves with a velvet curtain. There are a couple of external spaces, including a sunken barbecue terrace peppered with black and white polka dot glazed ceramic stools the shape of champagne corks. Private dining spaces combine opulence with intimacy.

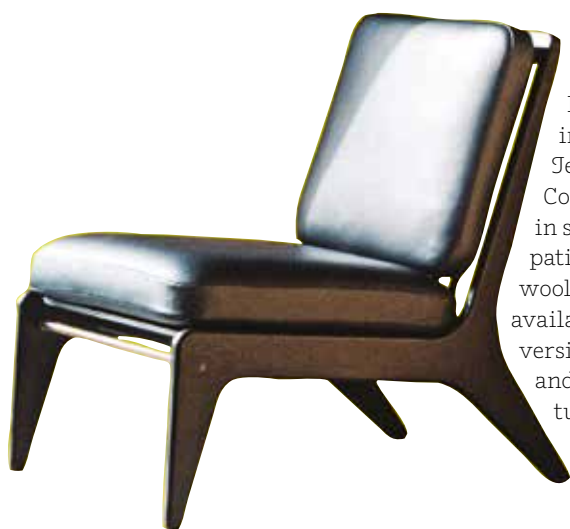
Fun has its place among all the good taste. The team has provided a bank of hair styling stations in the loos where members can waft their locks beneath traditional Polish pająki chandeliers before swinging – and Instagramming – themselves in a suspended chair of Tutti Frutti hues.

The total effect of the Ministry of Sound's new venture is suitably banging. ●



# 100% Design, designjunction, London Design Fair

Since 2003, the annual London Design Festival has celebrated and promoted the city as the design capital of the world. PIP previews some of the products to be seen at various locations from 15-23 September



**Gleda Medium Chair**  
**Benchmark**

Looking as if it was highly influenced by the furniture of Jean Prouvé and designed by Space Copenhagen, the Gleda is crafted in solid oak with spindle back and patinated brass touches and either wool or leather cushion finishes. It's available in low- and high-backed versions, with or without arms. Smooth and curvy, the Gleda offers some turn of the century craftsmanship combined with a contemporary look and feel.

100% Design, Stand L320

## **Babu chair**

### **Toru Barcelona**

Young Spanish designer Jordi Ribaudí drew on his family's tradition of leatherworking for a new range for his Toru Barcelona furniture brand. The Babu chair is formed of 6mm thick leather bent around itself to generate the structural component a backrest needs. And the rest, as they say, is history – even the leather's intended to patinate over time.

London Design Fair, Stand 3.6 Hall H3



## **w171 alma light** **Wästberg**

Swedish lighting company Wästberg will show its new w171 alma pendant light. Formed of delicate concentric circles, the aluminium lamp diffuses a rounded source of light while reflecting soft waves of shadow onto the ceiling. A joy of this fitting is that the ripple diffuser can be mounted on walls as well as hang from ceilings, lending it a curious, gravity-defying adaptability.

designjunction, Doon Street, Stand G8



**Colourplay bench 60**  
**&New**

Created by a British-Finnish design duo Jo Wilton and Mirka Grohn, &New's modern furniture collection is recognisable by its minimal, metal powder-coated form. The designs combine British wit and Nordic simplicity and the duo were winners of Elle Decoration's Best British Furniture Award 2015 & Elle Deco's International Design Awards Young Designer Talent 2016.

designjunction, Doon Street, Stand F28a

## **Zig Zag lamp** **Cinzel Stoneworks**

New Portuguese stone product design firm Cinzel has three young female designers producing its range of lights and furniture. This one, by Cécile Mestelan, must be referencing one of her nights out on the tiles, recalling some long route back to the warm lights of her Lisbon home. Hers is a double, available in black or white marble.

100% Design, Stand DL15





### Recycled plastic vases

#### Kodai Iwamoto Design

One of four young designers selected for 'Beyond the chipper' – a part of the fair reflecting on advances being made in the world of plastics recycling – Iwamoto draws on the work of famous Edo era ceramicists but gives it a contemporary twist with his blown plastic pipe vases. Not only recycled, but perfect for your real-life ikebana.

London Design Fair, Material of the Year stand Hall 13



### XS radiator

#### Foursteel

In a world of mediocre bathroom radiators, Portuguese firm Foursteel is forging its own geometric way with its XS range of three-dimensional triangulations made from stainless steel. Available in finishes including white and copper, it brings a bit of 'bold' to what's usually just 'bad'.

100% Design, Stand K335



### Ovo chair

#### Erik Jørgensen

Family owned Danish bespoke furniture company Erik Jørgensen will show for the first time at designjunction with a selection of its latest collaborations including the Ovo chair by Stockholm-based British designer Damian Williamson, alongside others from its core collection. Inspired, it's said, by hand-made fresh pasta languidly draped over a rolling pin, and counterpointed by the orthogonal steel base, the leather chair's name reflects this design provenance – 'uovo' is Italian for egg.

designjunction, Doon Street, Stand F14

### Bespoke wallcoverings

#### Colourgen

One's reminded of 1970s Anaglypta in super Technicolor with the results of Colourgen's evolution of inkjet printer technology. The firm has created a 3D bespoke wallcovering using Dimense, a wide format inkjet printer that simultaneously makes the print and structure for wallcoverings and other design applications. This one-pass process keeps costs low.

100% Design, Stand EB44



### One-off furniture, Kate Noakes

British designer and maker Kate Noakes creates beautifully made one-off pieces of metal veneered furniture, inspired by Victorian industrial design and 18th and 19th century art and interiors. Since launching her first collection at the LDF in 2012, she has worked with interior designers and clients in Europe and America.

100% Design, Stand EB77

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co.uk

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Olympia London,  
W14 8UX  
19-22 September  
100percentdesign.  
co.uk

### designjunction

Oxo, Doon Street,  
London SE1  
20-23 September  
thedesignjunction.  
co.uk





# Specified



**1**  
**K800 sink**  
**Grohe**

Ah, how different European culinary history would have been without the humble potato. Imagine life without the stalwart British chip, nuanced gnocchi or a dreamy Dauphinoise. The same's true for sinks. Medieval monks might once have stoically ablated in cold stone troughs, but it took Grohe's Teutonic thinking to come up with K800s 304 brushed stainless steel, noise insulated construction, automatic waste, splashless design and generous depth. Contemplate that next time you're conducting vespers in your Marigolds.

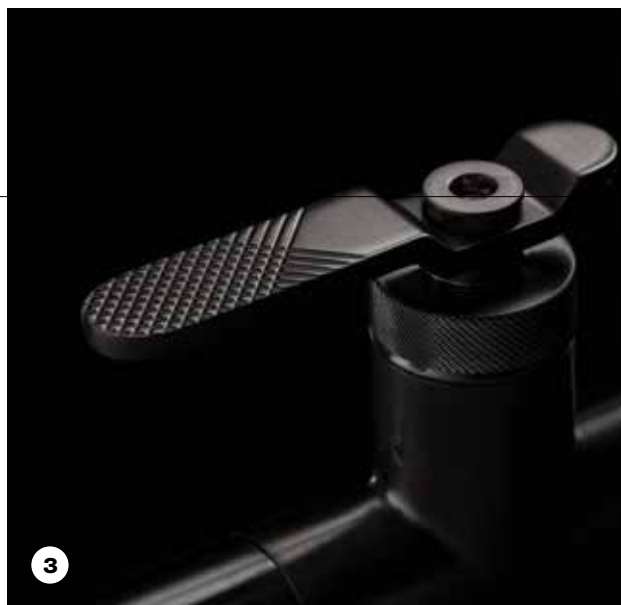
<https://www.grohe.co.uk>



**2**  
**Style acoustic glass partitions**  
**Dorma Moveo**

The goal of the Bodhisattva is Oneness. Only when you experience such clarity and tranquillity will you desire for the goodness for all beings rather than yourself alone. The Oneness is then within you and without you. For without the physical presence of the Earls Court area, there is no Meditation Centre. Without the Centre there is no corridor. And seeker, this you must also understand: Oneness does have its limits. For without the moveable glass partition wall, there is no quiet meditation room. Namaste.

[www.style-partitions.co.uk](http://www.style-partitions.co.uk)



**3**  
**Union brushed black chrome**  
**Crosswater**

Alice and I popped in to see Robert Smith of The Cure – 'so lovely to hear about this "Meltdown" thing he's just finished!' Alice slipped off to water the flowers, and returned simply overcome at the new bathroom taps he's had installed. 'Matt black,' she whispered as Rob brewed up a cleansing pot of silver needle for us all. 'Industrial... so cool!' Back home, Alice confided that he'd left one of his signature bats' heads on the cistern; the goth touch his otherwise perfect washroom restyle demanded. <https://www.crosswater.co.uk/designer-collections/mpro/>



**4**  
**Urban Myth carpet**  
**Gradus**

In my dreams, what I'd like to see in this space is a premium textured loop-pile carpet in a modular tile or plank format. I'm picturing possibly six greys, and maybe some – six, perhaps? Vibrant accent colours? We could use several options to reflect the flow, and of course I'd be looking for commercial quality and a long warranty period. Something like 12 years? Maybe 10 for its anti-static properties? I know we live in a warehouse, but my feet are cold and I am sick of looking at bare concrete. [www.gradus.com](http://www.gradus.com)



Ambassador rocker switch



Horizon rocker switch



Dimmer switch



Toggle switch



2 way and centre-off retractive toggle switch



Push button dimmer switch

## SWITCH TO FOCUS SB

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Retractive switches can be wired to control lighting as well as electronic blinds, curtains, shutters and much more. Plus, Focus SB bring you the only fully certified 2 way and centre-off retractive toggle grid switch suitable for use with mains voltage in the UK. So, when a project demands more than plastic switches, contact Focus SB.





# Sign Up

**Justin Nicholls**, co-founder, Fathom Architects, gives us three of his specification favourites



## BACK TO BASICS

The white tile reborn by Interni. This is a reworking of the utilitarian square white tile used in my schooldays. I first came across this single-fired ceramic tile at Foster & Partners when we were designing a social housing scheme for Peabody. I have subsequently used it in a stacked format in our family home. Three great things about this product: its aesthetically pleasing double square proportion, its smooth satin finish and its understated character which is suited to a variety of environments from municipal to domestic, indoor to outdoor.



## ELECTRICAL COLD/HOT PLATE

When we first set up Fathom I asked everyone to bring in inspiring objects. Among the robotically cut stone, handmade artworks, collapsing brass stars and BioBean solid fuel logs was a small ceramic plate with two protruding cables. Stick a battery on the end and it gets ice cold or reverse the battery and it heats to boiling. It's used for numerous applications from cooling computer chips to alternate power sources, or even for your own custom drink warmer/cooler. This product opens up interesting questions about the future of fridges, kettles and flasks.



## VINYL DECAL FACADE

When designing The Pod - a mobile Podcasting studio at White City Place for Stanhope/Mitsui Fudosan working with DN&Co - we wanted to create a visually dynamic facade representing its use. Our idea was to combine scripting with state of the art printing to create a patterned facade from the first words transmitted by radio: 'One, two, three, four. Is it snowing where you are Mr Thiessen?' A bespoke digital script was developed to translate the recording into 350,000 pixels, which were then fabricated using a Vinyl Decal printing process and meticulously applied to the folded polished aluminium sheet.

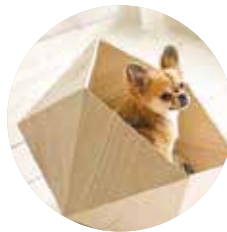
# ...Sign Off

**Jan-Carlos Kucharek** enjoys three of this issue's out-takes



## AMUSE BOUCHE

With all the TV gastro porn we're exposed to, it was only a matter of time before kitchen appliances became fetishised. Nowhere better to see this in action than at luxury brand KitchenAid's flagship store in London. If panic room levels of stainless steel specification set your pulse racing, pop along to Wigmore Street. You can't miss it - it's the store with the unsettlingly enormous blender filling its glazed shopfront. Here, as in other aspects of lust, it seems size really does matter.



## IN THE DOG HOUSE

Ever since Margaret Thatcher abolished mandatory Parker Morris standards in 1980, some clients have been trying to cram people onto sites like cattle in trucks. For architects, the natural end point to this is to go the whole hog and just design homes for animals. And here they all are in Phaidon's latest tome, Pet-tecture. Lots of pictures of animals, some looking quite uncomfortable in designs that are plainly a triumph of form over function. So business as usual then.



## BOLT FROM THE BLUE

You thought the only time you'd see a bolt launched into space was when they pinged off the Leadenhall Building? Think again. At the UK National Space Centre, contractor Robert Woodhead marked winning the 'Launch Pad' ticketing facility job by fixing a bolt to a cuddly cosmonaut from the gift shop and strapping it to a barrage balloon. 'What better way to celebrate than sending something "nuts" to the edge of space?' said its CEO. But as Newton would attest - what goes up, must come down...

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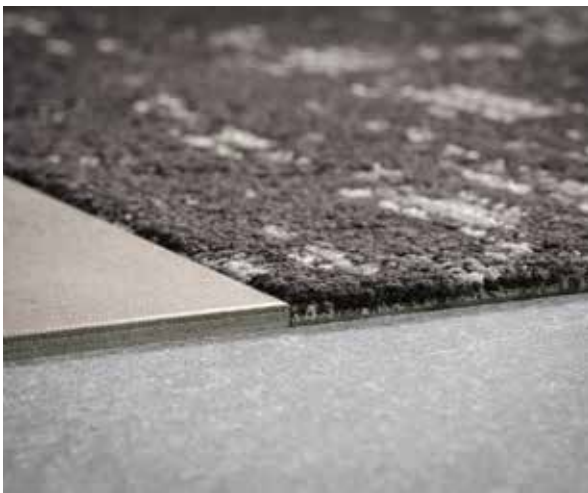
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