...turn of events in Afghanistan have only added to this pretty torrid summer. For sure, there was the rank confusion surrounding the opening up of the UK’s economy with a global pandemic still very much with us; but even that took a back seat to more headline-grabbing news on the world’s climate. Unsurprisingly, scientists confirmed that last July was the hottest July since records began there 142 years ago, with global temperature reportedly averaging 0.9°C hotter than the 20th century mean of 15.5°C. But it wasn’t just outside wildfires that had us transfixed. With the highest European temperature so far of 43.6°C recorded in Syracuse, Sicily, fires ripped through Turkey, Greece and Spain too, destroying homes and livelihoods. Of course, the UK may have watched the events with a certain detachment. With Covid travel policy changing almost daily and the only planes operating at capacity the ones leaving Kabul, Brits were left to holiday at home in jumpers and wellies to face August’s cold fronts and biblical levels of rainfall. But we should all be flying less anyway, right? So perhaps the rubbish weather here is just a case of our carbon chickens well and truly coming home to roost.

So it can only be with anticipation that we await the upcoming UN Climate Change Conference, to be held in Glasgow from the end of October, where we might hope to see evidenced some of the levels of international co-operation that have been so sorely lacking in the past 18 months. For in a society divested of a plan and engaged in knee-jerk policy-making, our hopes are – arguably – as probable as anything else.

Jan-Carlos Kucharek, editor
The Forge, Upton Park, uses an innovative Blue40 Roof System that restricts and delays runoff from the site, equating to 60% of the equivalent green field flow rate.

ARCHITECT: RM_A ARCHITECTS
Photo: Ben Luxmoore
Compendium

Extended interval
With London’s Theatreland tentatively opening up after an 18-month pandemic hiatus, the pause gave architect Foster + Partners time to complete its multi-million-pound restoration of the grade II-listed Trafalgar Theatre in the West End. Brought back to its original single, split-level auditorium – having previously been split into two theatres – the 630-seat revamp is a grand celebration of its art deco heritage. With an auditorium of black and silver, bronze and gold, even the new carpet is a replica of those originally installed. While you won’t be able to see the new, efficient services provision – though you may feel it – the only goose bumps you should experience is when the actors serve up their rendition of ‘December’ from its current ‘Jersey Boys’ run.

...and to the city’s police department until 1950. Now Glasgow Housing Association and Lovell Homes have given the building a new lease of life, converting it into 52 mid-market affordable rented homes.

Estonia’s Nordic fins
In time for the new academic year, Estonian architect Armikari has recently completed the Tallinn Centre for the University of Tartu, one of the most modern Nordic centres of digital technology, analytical and economic thought. The ground floor opens to the nearby park and river, with upper study levels clad in a delicate tracery of traditional wood, iron, stone and ceramic, and noting his past athleticism, Basque sports-themed murals form traditional wood, iron, stone and ceramics, and noting his past athleticism, Basque sports-themed murals form.

Surf and turf
Fine dining might not be the first thing the Balearic Isles bring to mind, but Michelin-starred Spanish chef Martin Berasategui wants to change all that, opening his latest restaurant El Txoko de Martín in Palma. With London’s Theatreland tentatively opening up after an 18-month pandemic hiatus, the pause gave architect Foster + Partners time to complete its multi-million-pound restoration of the grade II-listed Trafalgar Theatre in the West End. Brought back to its original single, split-level auditorium – having previously been split into two theatres – the 630-seat revamp is a grand celebration of its art deco heritage. With an auditorium of black and silver, bronze and gold, even the new carpet is a replica of those originally installed. While you won’t be able to see the new, efficient services provision – though you may feel it – the only goose bumps you should experience is when the actors serve up their rendition of ‘December’ from its current ‘Jersey Boys’ run.

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How to marry comfort and performance

Indoor environmental comfort depends on various factors – radiant and air temperature, air movement, air quality, noise, daylight and views, to name a few. Though they interact, we still tend to tackle them in silos. Parametric modelling can help navigate these often competing demands to support a holistic approach.

The Association of Noise Consultant’s recently published Acoustics, Ventilation and Heating Guide – facilitated by dynamic simulation software such as IES and TAS – promotes the identification of the Times windows to be operated, which can then be correlated with the review of noise levels under more flexible targets.

Design solutions such as acoustic attenuation panels and balconies can supplement that approach. In urban areas, however, it is still very challenging to meet acoustic targets, so facade design needs to be well thought through. One thing is clear: both comfort aspects benefit from limited glazing sizes – smaller is better.

However, with overheating/daylight, the latter benefits from larger window areas. This area has seen the publication of a recent standard, BS EN 17037, which takes a more flexible and site-specific approach. Unlike the traditional SRE method, its climate-based analysis considers natural ventilation, solar gain and seasonal variations. This should be external shading to be applied to access of a building which receive more sun, such as overhangs and balconies, positively facilitating façades, without endangering daylight targets. The standard’s view-out requirements prioritise high side glazing, indirectly penalising full-height glazing, which can only be seen as a plus for overheating risk mitigation. Apart from industry standards software such as AutoCAD and BIM plugins, parametric tools can be useful here.

Jared Green, foreword by Walter Hood. Princeton Architectural Press 256pp PB £30

Environmental design now needs to incorporate all the additional skills they have gleaned as tutors. With chapters on student case studies, the book takes readers on a journey to explore design variations. Honeybee for technical simulations and Butterflies for thermal comfort, we can quickly determine the ideal combinations of window size and configuration, openable area, external shading configurations, glazing specification and even acoustic attenuation panels for different facade orientations. The approach opens up an exciting possibility for earlier, more effective collaboration between architects, builders and specialists, resulting in environment-ally optimised buildings. At masterplan level, these tools and Ladybug are used for simulation modelling to determine the impact of installation. This shows the usefulness of considering environmental comfort and performance holistically. Software tools and new methodologies can help produce well rounded robust designs. For that, it is crucial to collaborate early with consultants and to make environmental comfort and performance project priorities.

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The full size splashback in HI-MACS behind the sink prepares seawards to the feeling of spaciousness and air.

Material Worlds was commissioned to design a small addition to this Victorian terraced house in Stoke Newington, London. With budget and space for extending limited, the challenge was to transform the dark and cramped kitchen into a bright, open space that could cater for a growing family. VUEG Ltd was commissioned to design and manufacture this light-filled, contemporary kitchen, with small space extensions.

An extensive roof light was installed above the new addition, and the rear wall opened up with large sliding doors above a new window seat. Careful co-ordination of the restricted space allowed the inclusion of kitchen island, topped with a HI-MACS workface, still leaving space for a dining table. The robust polished concrete floor was offset by natural oak, used for the slats supporting the roof light and for the window seat, creating an aesthetic that was at once both contemporary and welcoming.

Contemporary handleless kitchen units are complimented by the Ivory White HI-MACS worksop, chosen as much for their ease of cleaning as their sleek, attractive finish. HI-MACS is the perfect material for kitchen worktops as it is non-porous, extremely easy to clean, with just a wipe of a damp cloth and no seams soiled joining them are more for dirt and grease to linger. With 15 years guarantee, when installed by a member of our Quality Club, HI-MACS offers excellent price to performance ratio. The full size splashback in HI-MACS behind the sink prepares seawards to the feeling of spaciousness and air.

“We requested something modern and more creative than the standard side return you see in the area. The designs were fantastic – a raised kitchen, with a small side extension. An extensive roof light was installed above the new addition, and the rear wall opened up with large sliding doors above a new window seat.”
The Sky Pool, spanning the space between two towers of EcoWorld Ballymore’s Embassy Gardens in London, since opening this summer, became the unintended focus for wider discussions on social equality; but there is no taking anything from the fact that the pool itself, 10 storeys above ground, is an engineering feat, a close collaboration between architect, engineer and fabricator to meet the client’s desire for a radical statement at its riverside development.

The requirement to fit a 25m pool at 10-storey height, and conflicting rooftop plant demands, spawned the idea of using the pool as a viaduct between the two buildings; it was also directly accessible from both towers. Engineer Eckersley O’Callaghan was brought on board by HAL due to its expertise in the design of glass structures – notably with Apple Stores globally. But interestingly, the firm plumped for cast acrylic rather than glass, despite its having one-quarter the working strength and 20 times more deflection under similar loads, says Brian Eckersley. This was partly because acrylic is less brittle and far lighter than glass: 1.2t/m³ rather than 2.7t/m³; also, acrylic at the necessary thickness, was far more transparent than glass laminations and it was much simpler to join the component pieces together with transparent bonded joints.

Engineering concerns included the weight and hydrostatic pressure of 150t of water on the pool floor and walls, horizontal wind loading and differential vertical settlement of the two concrete towers, as well as the pool’s skewed relationship to them. Add to this the intrinsic thermal expansion of the acrylic itself, and differential stresses between outside and pool surfaces and the engineer had plenty to consider. Its response was a cast and bonded acrylic ‘U’ form made of six 356mm thick floor pieces and four 3m high, 375mm thick wall sections, the latter acting as two enormous beams. This monolithic acrylic element is sandwiched between two 5m long steel ‘tubs’ sit on the two towers, containing steps, lighting and filtration equipment. Holding the three pieces together are two pre-tensioned steel tendons running between the steel tubes. These connect to a spring stack either side which accommodates thermal expansion and contraction of the acrylic of up to 80mm while holding the structure in constant tension to avoid leaking. The whole structure sits on 10 bridge bearings on the concrete towers, which allows them and the pool structure to move relative to each other.

Carried out by the world leader in acrylic fabrication, Reynolds Polymers in Colorado, USA, the monolithic design required the construction of a bespoke temporary oven to allow the completed structure to be repeatedly heated and cooled as part of the annealing process. It was one of the most challenging designs the firm had worked on. Transported to the UK by ship, delivered by Thames barge and hoisted into place in one day, the completed installation – shimmering blue, mesmerising and controversial – looks set to remain a talking point long into the future.
Designed from 1962 and completed in 1968, Mies van der Rohe’s final building, Berlin’s Neue Nationalgalerie, is one of the architect’s late masterpieces; and in its uncompromising nature, can be read as a swan song to the conceptual purity of late Modernity. Conceived as a new civic monument to art, rising out of the post-war city’s ruins, Mies chose the classical temple as his inspiration, creating a ‘timelessly modern’, luxuriously abstracted structure of black steel, bronze, glass and marble, raised on a podium of concrete and granite. But it was to prove as infamous as it was iconic, ‘refraining from an ostensible functionality for the exhibition hall’ that always left it a challenging environment in which to display art, as well as beset with technical problems from the day it opened – most notably condensation issues – that left it a notoriously ill-suited for the display of contemporary, let alone historical artworks.

So, when David Chipperfield Architects was appointed in 2012 by a client body led by the National Museums in Berlin and the Prussian Cultural Heritage Foundation to refurbish the city’s 50-year old problematic but much-loved museum to make it fit for the institution’s centenary, the practice approached it with the same consciousness and delicacy as a picture restorer would approach an Old Master. For the firm, while almost pulling the building to pieces by degrees and remediating the structure, services and interiors, its stated aim was to make its intervention as near invisible as possible. And €140 million later, Chipperfield’s forensic survey of the building, and surgical interventions on it, is evidenced less from what you see than what you don’t. Practice partner Martin Reichart’s summation, at face value, sounds like an under-delivery: ‘There was no promise of new splendour, no promise of new qualities, no reinterpretation or aesthetic upgrade – merely the refurbishment of the last work by Mies in line with accepted conservation practices.’

And restoration decisions centred around making it fit for international shows while bringing it in line as much as possible with German building and sustainability codes. Functional and technical upgrades include air-conditioning, artificial lighting, security and visitor facilities, classroom, cafe and museum shop, as well as improving disabled access and art handling which all meant the dismantling and eventual replacement of 55,000 original components. ‘It was all about preserving the aura and not about the reinterpretation of an image,’ says partner and project lead Alexander Schwarz. ‘The refurbishment of the Nationalgalerie fundamentally accepted aging and traces of use in the existing building fabric, as long as they did not impair its visual appearance and usability.’

To start with, Mies’ corner mullion details, made of 150mm by 150mm hollow sections, were stiff, so thermal expansion could only run from the edges to the middle. A shoe detail at the interface with the oversailing roof, intended to hold the glass in place, also limited its ability to deform. With a similar vertical detail made up of 40mm by 80mm solid steel frame pieces and two 25mm by 45mm steel beads either side of the glass, with next to no tolerance, it was only a matter of time before the arrangement caused every original perimeter pane to shatter. Indeed, in its upgrade of his final project, balancing modern building codes with Mies’ original detailing

Words: San-Carlos Kucharsk
Photographs: Simon Menges

Main image in full glory: The restored east elevation of the Mies’ Neue Nationalgalerie with St Matthäus-Kirche to the north. Podium, entrance and lower levels are now fully accessible. Above The same elevation just after completion in 1968.
**Installed as half-width sheets with a joint rather than full width, minimizing the cost of replacing what had been prohibitively expensive panes to fabricate. In the restoration, full width upper panes were reinstated inline with the architect's vision. These were fabricated in China by JinJing, one of the few companies globally able to fabricate glass of these dimensions. But to accommodate the inevitable movement in the new iteration, three mullions at the quarter points of every glazed elevation were replaced by so-called 'expansion mullions'. These look identical to the originals but were constructed of two vertical shoes connected to each other by springs. The detail allows the large glass panels to move in the order of 10mm plus or minus the molded mullion, meaning that no change was needed to the original, stiff hollow steel corner sections.**

Regarding environmental performance of the single glazing, the firm looked at two double glazed panel options that would have produced significant carbon savings, one with thermally insulated profiles. But, explains Schwarz: **'A double-glazed unit simply couldn’t be integrated into the original Mies steel bead detail.'**

In the end, the firm managed to convince the client that the optimum solution was to use some glazing made up of two panes of 12mm tempered white glass with a SentryGlas laminated interlayer, dealing with former safety concerns with float glass. Its increased width meant shaving away the internal face of the steel, making no visible change to the original detail. Chipperfield stated that because the thermal properties of the glass have not changed, U-values are not at variance with the original glazing as installed.

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**Options**

**Option 1 (implemented): Minimal modification with new laminated safety glass without thermal separation.**

**Option 2: Insulated glazing with adapted solid profiles.**

**Option 3: “State of the art” insulated glazing and thermally separated profiles.**
Despite the compromised nature of the solution, Schwarz considers the decision to maintain the single glazing is one of the biggest achievements of the project. ‘The fact that we didn’t radically improve the performance of the facade after spending €140 million on the project is a difficult one for the German mentality to wrestle with but, together with the museum’s directors, I think it was the most cultured decision we came to. In a sense, it’s a very English solution,’ he concludes, adding wryly, ‘it’s not perfect, therefore it works.’

The strategy comes with caveats of course. On colder days, visitor access to the courtyard is curtailed to avoid adversely affecting already delicate heat and relative humidity levels. ‘It is, he feels, a fundamental aspect of how the building is perceived. ‘The crispness of this against the steelwork that bears the marks of age, somehow makes the museum so fresh again, and clearly not a copy of what it was before. There is a lot of innocence in pure glass and this strikes you immediately when you encounter it.’

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Preparing the golden thread for products critical to building safety

Fire doors are a key element in a building’s passive fire protection. Door-Stop outlines what architects and specifiers should ask of product manufacturers to prepare for the golden thread.

One of the key recommendations from the Hackitt Review was that there should be a digital ‘golden thread’ of information for all higher risk residential buildings. With the aim of improving structural and fire safety, this must include information to enable someone to understand the products and services fitted into a building and the steps needed to keep both the building and its occupants safe, now and in the future.

A central element of the golden thread is that detailed information about the products, components and systems used within a building, including how they were manufactured, tested, certified, installed, maintained or replaced, would be available in a single digital record.

With the new Building Safety Bill expected to be granted Royal Assent around April 2022, it is expected that most of the new building safety regime will become law before the end of 2023. The transition of the main regime indicates that it is expected that most of the new building safety regime will become law before the end of 2023. The transition of the main regime indicates that the provisions for the golden thread will come into force within 18 months of Royal Assent.

Improving transparency and traceability

Fire doors and corresponding hardware are classified as critical to life safety products and information about them, including their materials, specification, installation, test results and accreditations will therefore need to be included within the digital golden thread.

When Door-Stop International tests its fire doorsets, manufacturing of the test sample is carried out under the witness of an independent third-party observer. They verify each component and the production process, to demonstrate that the doorset that is tested is based on standard components and controlled production processes, not a 'lab queen'.

The independent witness permanently marks the test doorset with traceability marks. These are then verified at the test house and recorded on the sampling report that accompanies the test report. This is done to prove that the product that was tested was the same one that was witnessed in the factory.

One example of a product certified in this way is Door-Stop's three-hour Fire and Security Dual-Certificated Doorset. It is a timber core product with GRP facings that is third-party certificated and manufacturing of the test sample is carried out under the witness of an independent third-party observer. They verify each component and the production process, to demonstrate that the doorset that is tested is based on standard components and controlled production processes, not a 'lab queen'.

One of the benefits that the Certifire and Certisecure provide is the ability to see the robust primary test evidence base that is used in its third-party certification. It has run multiple tests across the range to understand not only what makes a door able to pass, but also the factors that will make a product fail, so we can usually understand the vulnerabilities of a design.

Looking to the future

The role of certification schemes

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Certifire and Certisecure provide the publicly available digital register of all certificates and datasheets. This is useful for stakeholders who may need to access this information to verify specification at any time throughout the entire lifetime of the door.

The other benefit of these schemes is the collaboration with the British Woodworking Federation (BWF) and the BWF Fire Door Alliance and the unique tamper-proof traceability labels that are provided with every product. Each label includes a unique sequential number, details of the manufacturer, and contains the relevant certificate number relating to the door that leads back to the digital ‘Critical to Safety’ permanent record of the individual doorset.

Fire doorsets are shipped with copies of the full certificate, datasheet and installation instructions, where the primary test evidence of our product is listed.

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Looking to the future

Dual certification will continue to help Door-Stop give confidence to every single stakeholder in the fire door safety chain. And that’s not just reassurance about the manufacturing process but also guidance on the ongoing maintenance of the doorset throughout the life of the product.

The level of detail in both the publicly available certification documents and datasheets, and in the traceability label, form an integral part of the golden thread. Together, they play a critical role in ensuring a transparent approach to product testing and certification.
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Support that matches your project programme,
Uncompromising quality and craftsmanship

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thermal and acoustic requirements

Reynaers Aluminium, you can rely on:

With bespoke and standardised product solutions in
curtain wall.

Realise your project aspirations with leading product solutions in
window.

Costed

David Holmes, associate at AECOM, provides supply and fix costs for a range of commercial and industrial doors and windows

The market for doors and windows in the UK is estimated to be around £6 billion. Demand is largely driven by construction output with both the newbuild and repair and maintenance sectors achieving significant market shares. With the Green Deal rollout extended to end March 2022, to encourage homeowners to upgrade energy saving components, financial and environmental benefits will contribute to the market’s overall value.

For the following rates include prices for the supply and hang of doors and windows, complete with all frames, architraves, typical medium standard

DOORS

<table>
<thead>
<tr>
<th>Description</th>
<th>Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softwood external doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard external softwood doors and hardwood frames; doors painted, including ironmongery</td>
<td>290-720</td>
</tr>
<tr>
<td>Flush door; cellular core phenolic faced 900mm x 1911mm</td>
<td>750-750</td>
</tr>
<tr>
<td>Heavy duty solid flush door</td>
<td>950-1150</td>
</tr>
<tr>
<td>Single leaf half emergent fire exit</td>
<td>1275-1500 / 1750-2125</td>
</tr>
<tr>
<td>Standard doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Single external steel door, including frame, ironmongery, powder coated finish</td>
<td>925-1250</td>
</tr>
<tr>
<td>Single external steel security door including frame, ironmongery, powder coated finish</td>
<td>2125-2650</td>
</tr>
<tr>
<td>Automatic sliding door; bi-parting opening 2.0m x 2.3m opening</td>
<td>9400-12000</td>
</tr>
<tr>
<td>Automatic glazed entrance doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard 900mm x 2100mm steel door with decorative ply winner</td>
<td>4900-5200</td>
</tr>
<tr>
<td>Overhead doors</td>
<td>£/m²</td>
</tr>
<tr>
<td>Standard overhead / single skin electric</td>
<td>1950-2000 / 1800-1900</td>
</tr>
<tr>
<td>Electric operation standard LR, 42mm thick insulated sandwich panels</td>
<td>230-237</td>
</tr>
<tr>
<td>Rapid / lift fabric door, external, electric operation</td>
<td>980-1175</td>
</tr>
<tr>
<td>Dock shelter doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Curtain mechanical shelter; extruded aluminum frames; two side and one top curtain double hygrophilic quality polyester, cradled both sides</td>
<td>1275-1550</td>
</tr>
<tr>
<td>inflatable mechanical shelter; hot dipped galvanized surface treatment, polyester coated, top bag with polyester fabric panels; side bags</td>
<td>4000-4600</td>
</tr>
<tr>
<td>JUPVC external doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Softwood panel, lining and architrave; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing</td>
<td>4300-4300</td>
</tr>
<tr>
<td>Standard double glazed standard PVCu/frames; barge furniture (uplift - security chais / letter plate / draught excluder / multipoint locking)</td>
<td>320-320</td>
</tr>
<tr>
<td>Double glazed doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard double glazed; cellular core; softwood lining and architrave; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing</td>
<td>230-280</td>
</tr>
<tr>
<td>Double leaf; four panelled doors; mouldings</td>
<td>1500-2375</td>
</tr>
</tbody>
</table>

WINDOWS

<table>
<thead>
<tr>
<th>Description</th>
<th>Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed windows 1.50m² - 4.00m²</td>
<td>265-320</td>
</tr>
<tr>
<td>Outward opening pivot windows ≥1.50m² / 1.50m² - 3.20m²</td>
<td>730-890 / 320-390</td>
</tr>
<tr>
<td>Steel windows (U-value = 1.6 W/m²K)</td>
<td>£/m²</td>
</tr>
<tr>
<td>Purpose made windows</td>
<td>£ each</td>
</tr>
<tr>
<td>Painted; double glazed up to 1.50m² / 1.50m² - 3.20m²</td>
<td>475-680 / 355-430</td>
</tr>
<tr>
<td>Hardwood windows (U-value = 1.4 W/m²K)</td>
<td>£/m²</td>
</tr>
<tr>
<td>Painted double glazed up to 1.50m² / 1.50m² - 3.20m²</td>
<td>680-820 / 560-720</td>
</tr>
<tr>
<td>Steel windows (U-value = 1.6 W/m²K)</td>
<td>£/m²</td>
</tr>
<tr>
<td>Standard / purpose made steel double glazed powder coated</td>
<td>640-780 / 690-870</td>
</tr>
<tr>
<td>JUPVC windows</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard windows; no standard ironmongery; sills and factory glazed with line 5.2mm double glazing WER A rating</td>
<td>230-290</td>
</tr>
<tr>
<td>Fire escape door</td>
<td>1500-2295</td>
</tr>
</tbody>
</table>

DOORS

<table>
<thead>
<tr>
<th>Description</th>
<th>Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard external doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Cellular core; softwood; softwood architraves; aluminium ironmongery (latch only)</td>
<td>325-395 / 285-360</td>
</tr>
<tr>
<td>Single leaf reinforced panel (p.e. post / p.e. suppressor)</td>
<td>950-1150</td>
</tr>
<tr>
<td>Purpose made doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Softwood panel; being and architraves; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing</td>
<td>230-280</td>
</tr>
<tr>
<td>Double leaf; four panelled mouldings</td>
<td>950-1150</td>
</tr>
<tr>
<td>Hardwood panel; being and architraves; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing</td>
<td>230-280</td>
</tr>
<tr>
<td>Double leaf; four panelled doors; mouldings</td>
<td>1500-2375</td>
</tr>
<tr>
<td>Fire doors</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard fire doors; cellular core; softwood being and architraves; aluminium ironmongery (lockable, soft-closures); painting or polishing</td>
<td>230-280</td>
</tr>
<tr>
<td>Single leaf: oak winner; 30 / 60min fire resistance; polished</td>
<td>630-840 / 1325-1815</td>
</tr>
<tr>
<td>Ironmongery sets; standard</td>
<td>£ each</td>
</tr>
<tr>
<td>Stainless steel; door locks; push plates; kick plates; signage; closures</td>
<td>345-410</td>
</tr>
<tr>
<td>Office door: security locking; fire rated</td>
<td>295-360</td>
</tr>
<tr>
<td>Standard bathroom door (unisex) / accessible toilet door</td>
<td>295-360 / 170-210</td>
</tr>
<tr>
<td>Fire escape door</td>
<td>1500-2295</td>
</tr>
</tbody>
</table>

Steel windows (U-value = 1.2 W/m²K) 42mm thick insulated sandwich panels 230-275

Dock shelters | £ each |
| Inflatable mechanical shelter; hot dipped galvanized surface treatment, polyester coated, top curtain; double-layered high-quality polyester, coated both sides | 1275-1475 |
| Curtain mechanical shelter; extruded aluminum frames; two side and one top curtain double hygrophilic quality polyester, cradled both sides | 1275-1550 |
| inflatable mechanical shelter; hot dipped galvanized surface treatment, polyester coated, top bag with polyester fabric panels; side bags | 4000-4600 |
| JUPVC external doors | £ each |
| Softwood panel, lining and architrave; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing | 4300-4300 |
| Standard double glazed standard PVCu/frames; barge furniture (uplift - security chais / letter plate / draught excluder / multipoint locking) | 320-320 |
| Double glazed doors | £ each |
| Standard double glazed; cellular core; softwood lining and architrave; aluminium, brass or stainless steel ironmongery (latch only); painting and polishing | 230-280 |
| Double leaf; four panelled doors; mouldings | 1500-2375 |

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<tr>
<td>JUPVC windows</td>
<td>£ each</td>
</tr>
<tr>
<td>Standard windows; no standard ironmongery; sills and factory glazed with line 5.2mm double glazing WER A rating</td>
<td>230-290</td>
</tr>
<tr>
<td>Security Design accreditation</td>
<td>240-290</td>
</tr>
<tr>
<td>Extra for colour finish to PVCu</td>
<td>65-75</td>
</tr>
<tr>
<td>Composite aluminium-limber windows; U-value = 1.5 W/m²K</td>
<td>£/m²</td>
</tr>
<tr>
<td>Purpose made, stainless steel stainless steel ironmongery fixed windows up to 1.50m² / 1.50m² - 4.00m²</td>
<td>295-350</td>
</tr>
<tr>
<td>Flat windows 1.50m² / 4.00m²</td>
<td>295-350</td>
</tr>
<tr>
<td>Outward opening fixed windows 1.50m² / 1.50m² - 4.00m²</td>
<td>730-890 / 320-390</td>
</tr>
</tbody>
</table>
Specified

1. SF52 flexible curtain walling
   Senior Architectural Systems
   “Oh dash it all, Mark Carney, banker’s banker and economic whizzkid!”
   “What’s up, Damien Hirst, creative monstrosity of this parish?”
   “That blimmin Mondrian. We do our seminal online interview about digital art investments, and now he’s gone and gone transparent. The dastard!”
   “But didn’t he die in 1944?”
   “No, he faked his death for the publicity. Now he’s gone totally see-through. Look at this SF52 curtain wall he’s done in Bolton! Even my drainage is completely hidden. Invisible art! Genius! But it makes Sotheby’s art-shredding wheeze too damn obvious.”
   seniorarchitecturalsystems.co.uk

2. Vitrapivot doors
   IQ Glass
   I was sitting there trimming my box ball planters, wishing that I had the kind of space that allowed one to sit and admire them come rain or shine, when it struck me: a magnetic weather sealing bar, which would rise to meet my courtyard doors as they closed, and which – with an integrated channel – would protect against driving rain, so allowing me to contemplate my beautiful box balls in comfort.
   Then I discovered that IQ Glass had already done it. And then it rained. And then the box balls caught blight anyway and died.
   iqglassuk.com

3. Lux slim pivot door
   Sieger
   “Ah! Come in Mr Raffles. We operate an open-door policy here. Feel free to treat everything as your own! I see you admiring the Hirst on the wall…”
   “A Hirst? Oh yes. But no: this door intrigues me… A Sieger Lux, yes? With thermal break, 7A to 9A watertightness, and that vast gassed glass? Surely you close it in winter? It has integrated three-point locking, you know. I am something of an amateur when it comes to locks and such. As for your, ah… art, madam: one only really tends to notice the good stuff.”
   siegersystems.co.uk

4. AA110 curtain walling
   Kammer
   “Lovely drop of the local Glyndwr Rosé 2019, lad?”
   “Yeah, Bri! S’alright. I’ve only had two glasses and it’s messed with me verticals.”
   “Kewanu, son: have you not read up on where we’re holding our Automotive Grommet and Boot Federation gala dinner?”
   “Too busy selling the stuff, guv!”
   “It’s not your eyes; the curtain walling on this /fine new Welsh bar we’re drinking in slopes outwards by 20º! It was actually classified as roof glazing, yet still meets the crowd loading requirements. You gotta get Googling if you want to get on, lad!”
   kawneer.com
The importance of choosing the right materials for education projects

Daylight and a comfortable temperature are known prerequisites for effective learning. Velfac offers systems designed to make the most of both.

Premièred government investment in education facilities should see growth in sector projects in 2021. Both renovation and new build, prompting renewed assessment of product specification priorities. Despite budget constraints, better quality and robust building products should be actively sought, as they are proven to deliver competitive lifetime costs over the course of their working life through reduced maintenance and repair costs. These products will often also deliver performance improvements and stylish and contemporary design. This is especially true for glazing, where an increased emphasis on natural light and better ventilation is driving demand for well designed, high quality windows available to maximise daylight while improving thermal performance.

"The ability of modern building products to transform indoor climates is particularly relevant for education settings," says Velfac commercial manager Kevin Woolf. "For example, windows units featuring ultra-slim frames can increase natural light by up to 50%." Additionally, there are also low, much larger windows can be installed in, say, student bedrooms to give the ideal balance of light and insulation, and large glazed screens become a realistic option for buildings of any size as they will easily maintain an even internal temperature.

Good ventilation is also vital, he continues. "Talk to your window supplier to ensure the units are actively sought, as they are proven to deliver competitive lifetime costs over the course of their working life through reduced maintenance and repair costs. These products will often also deliver marked performance improvements and stylish and contemporary design. This is especially true for glazing, where an increased emphasis on natural light and better ventilation is driving demand for well designed, high quality windows available to maximise daylight while improving thermal performance.

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The UK as a science superpower that’s the ambition prime minister Boris Johnson set out in a growth plan for the life sciences sector, published this summer. Even allowing for ‘Subsonian hyperbole, this is a sector that has for some years been on the up, having been backed by the government in its 2017 industri- al strategy. And globally the sector is attracting huge interest from investors, aware of its prom- ises and resilience through the pandemic.

That has pushed a niche sector associated with universities, research institutes and pharmaceutical majors into the property main- stream, with property agents even warning of a shortage of laboratory spaces. As a result, a prop- erty market that has seen portfolios and pro- jects plunged into uncertainty by the pandemic is now looking to life sciences as a lifeline for development, and in repurposing everything from shopping centres to office blocks.

Historically public and private sector clients have taken quite different approaches to life sciences, with the former bringing the same rigour they apply to science itself. ‘In higher ed- ucation there can be very particular demands in what clients wanting to achieve exist of and the conflicting demands, particularly around how to work in science park settings, where their al teams are similarly diverse – and a lot of the work is in small centres and on challenging sites and in and around existing buildings.’

By contrast, private developers convention- ally work in science park settings, where their speculative buildings must appeal to a range of occupiers, says Eades, who has done science space regularly. ‘Like others, we are now cutting in-house R&D budgets and in- vesting in life science start-ups. That has implications for the type of space provided, because start-ups have limited funds so fit outs might need to be different and start-ups will have limited equipment, so there could be potential to provide areas for equipment that could be shared.’

In the commercial science sector, Darius Umrigar, science and higher education direc- tor at NBBJ, says, ‘There are probably only a dozen knowledgeable developers of scale that have done science space regularly. Like others, the practice is receiving requests from developers to assess existing buildings and projects in design for repair, a proposition that not only relies on the science the original one was envisaged, but also on the building’s practical potential in areas including services, slab-to-slab height, ventilation, control, acoustics, daylighting and operation- al logistics. In its responses, the practice draws on experience in complex science facilities, in- cluding Guy’s and St Thomas’ NHS Foundation Trust’s adaptable estates strategy. The strategy was a shield-and-core design approach that was sufficiently flexible to enable either healthcare, life sciences or office use of a building, taking on- board servicing requirements and its appeal for different users. The building developed under that strategy will be used for healthcare, but could change in future. ‘The key to this and a project we’re working on is to create not a fully adapt- able building, but one that has fixed activity if needed, to safeguard the university’s long-term interests.’

NBBJ’s Light and Mind Building at the University of Oxford has been designed to be the building of the future, but it has been designed to be easily adapted for more office-based activity. The site once housed a car body repair business that was stripped back to its precast concrete frame, reclad and had an upper storey inserted, to create 63,000ft² of flexible office/lab space – for multiple tenants. ‘The scheme hits the nail on the head commercially,’ says Lewis.

Life sciences throw developers a lifeline

We’re getting asked: ‘Can you do science in this building?’ – but that’s like asking if you can do sport in a building

To understand the capital cost outlay for a life sciences occupier, it is about building being ap- propriately designed for the target market and, until tenants come along, there is a risk they may build the wrong space or over specify’. ‘A feeling frenzy’ is how Matthew Jones, partner with Hoare Lea, describes current mar- kets. ‘There’s a feeding frenzy to build science. The key is not to build something that is hard or does not work, and to avoid over-specification.’

Making buildings work for sciences

Commercial sciences is a relatively new market for urban developers and they are struggling to understand the building and it’s servicing – and therefore the cost, level of fit-out and what that achieves’, is how David Lewis, partner with NBBJ sums up the evolving picture. A change in the way big business approaches R&D is also having an impact, says Lewis. Big companies are more cutting in-house R&D budgets and in- stead investing in life science start-ups. That has implications for the type of space provided, because start-ups have limited funds so fit outs might need to be different and start-ups will have limited equipment, so there could be potential to provide areas for equipment that could be shared.

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The key is to create not a fully adaptable building on day one, but a robust shell and core that can be adapted

The commission for life sciences buildings could rise as the UK aims to develop the sector, but don’t underestimate these specialist buildings, warn experts

Words: Josephine Smit

Products in Practice September/October 2021

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NBBJ has already successfully repurposed existing buildings for science uses – notably The Works on the Unity Campus just outside Cambridge, which was completed early last year for client Howard Group. An industrial shed that once housed a car body repair business was stripped back to its precast concrete frame, reclad and had an upper storey inserted, to create 63,000ft² of flexible office/lab space – including an internal, air-injected social space – for multiple tenants. ‘The scheme hits the nail on the head commercially,’ says Lewis.
The UK’s largest repurposing project for life sciences is the new Rosalind Franklin Laboratory, in Leamington Spa, justifiably known as the megalab. Developed as part of the government’s pandemic response, the facility allows around 2,000 staff to process vast quantities of Covid tests rapidly. It was created in a relatively new warehouse for the purely practical reason that it needed to be in service fast. ‘We were working at an ultra-fast pace, which I’ve never encountered in laboratories,’ says Gary Clark, science and technology lead at HOK’s London studio. ‘On a normal project the works below ground are the main risk, and after that comes the external envelope. This approach cut out long lead items, so we were effectively building a box within a box. Site storage was in the middle of the building and construction continued around the edge, 24 hours a day.’

The warehouse had the required space – 10m from floor to roof, and a 200m long by 100m wide floorplate – but inevitably came with constraints. ‘The foundations could only take a certain weight, for spans and punch loads, and we had to work round the existing column layout,’ says Clark. Laboratories are on the ground floor, with plant on a newly inserted first floor. To ensure laboratories could be installed efficiently and achieve their containment level 2/3 certification, the project team – led by Mace with WSP as engineering lead – collaborated with laboratory system manufacturers Middas and Asgard Cleanroom Solutions to develop a kit of parts.

On the outside, the building has changed little. ‘For speed, cost and embodied carbon we didn’t want to change much, although we have suggested a few measures for the future,’ says Clark. ‘There is currently a search for a formula for science. We did some work looking at that a while back, but came to the conclusion there is no single answer.’

While this project was exceptional, it adds to the buzz of excitement in property circles around life sciences. Hoare Lea’s Jones, however, is cautious. ‘The market desperately wants science to be the answer, but it won’t happen at the scale developers want. Most property agency advice is based on the rear view mirror. This is an emerging market with no rear view mirror and that makes it difficult to give answers,’ he says. ‘There is currently a search for a formula for science. We did some work looking at that a while back, but came to the conclusion there is no single answer.’

The architects were involved in the delivery process, taking part in two daily client meetings and twice weekly presentations. Collaborative, streamlined and outcomes-focused approach advocated by the government’s Construction Playbook, with design undertaken in Revit and transferred directly to manufacturers. The architects were involved in the delivery process, taking part in two daily meetings with the client and twice weekly client presentations, while a client-backed project charter promoted collaborative behaviours. But the kind of collaboration that delivered the megalab can only become more widespread if professions can escape the confines of insurance liability, says Clark: ‘Project insurance is desperately needed to cross the boundaries of liability. It is something the government needs to think about.’

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This may not be what the property industry wants to hear right now, but it could be a useful reality check. •

Left HOK’s Laboratory in Leamington Spa is a quick-build megalab dealing with mass Covid testing, which went live this July. Below The Rosalind Franklin building challenged HOK to deliver highly serviced lab spaces in a very tight frame.

About 10% of the UK’s carbon dioxide emissions are directly associated with construction (Green Building Council)

Talk to a firm actively developing greener products in its eco-friendly research centre.

www.kerakoll.com
Lifting the veil on R&D with fibre-cement facade manufacturer Equitone

With the advent of a new original texture, Equitone invites exploration into how products are made with architects and how Lunara is bringing the moon down to earth.

Bringing new texture to the marketplace is a serious business for Equitone. Initial research can start more than 10 years before a material reaches specifiers, going through a series of iterations and reviews. The R&D team can be working on several materials, colours and ideas at the same time.

The initial idea for the texture we now know as Lunara began 12 years ago. The original concept was for a 'brushed' texture. It would need to be in keeping with the other materials in the Equitone family, loved by architects for their through-coloured and natural appearance.

Market research, workshops and testing are integral to product development. Equitone regularly invites architects from all over the world to visit one of their two factories (in Belgium and Germany) to take part in the process. Secrecy, of course, is important when remaining innovative and relevant. Architects won’t necessarily know what they are working on, but it is all important to Equitone to involve the specifiers of their materials at all stages of the product development process. The insights gained are used to validate concepts and prototypes for their potential in the real world from both design and practical perspectives.

Testing also plays a major and rigorous part of the development process. Third-party tests and verifications are sought for all materials in the Equitone range and any new product must match the unwavering emphasis of aesthetics and safety of the existing materials to even be considered for launch. The tests include accelerated outdoor erosion, Euroclass Fire Standards and material density, as well as metal and tests in the factory with over 20 test production runs in just one year. Equitone also values transparency and applies for both BBA and EPD certification.

So how is Lunara made?

Well, that would be secret, but what can be divulged is that Equitone has again created an extremely tactile and high-performing material, distinct from the rest of the Equitone range, yet with the same ease of use and design freedoms that Linea, Tectiva, Natura and Pictura offer.

The surface, reminiscent of the craters on the surface of the moon, was named Lunara by architects invited to preview the materials. The wells in the surface enable the material to react to light and shadow, more subtly than Linea, but still as playfully. The Lunara panels are formed using a Hatschek process, before mechanically creating the texture and then steamed using an autoclave.

Equitone’s newest material, Lunara, is evocative of the surface of the Moon. It launches on 21 September 2021.

Lunara launches in the UK on 21 September 2021. For more information or samples visit www.equitone.com

‘I like the name; it feels old, of another world, like sedimentary rocks with fossils in it... Mysterious, ancient, even a little alien’
-- architect Shane O’Toole on seeing Lunara for the first time
Three bespoke bathrooms

A hammam, Conran-era colour and an eclectic mix of styles inspired three small rooms where you can soak up the atmosphere

Words: Pamela Buxton

Anyone for a flamingo pink basin? Or a green concrete bath? Expressive bathrooms are alive and well judging by the projects featured over the next few pages. In these, we feature three bright and bold bathrooms realised through deft use of retro elements and imaginative, bespoke design.

In two of the projects, concrete plays a starring role. MW Architects has innovatively transformed twin cast pink basins into a mid-century modern cabinet as part of a lavish 9m long space. At Studio Ben Allen’s The House Recast, the 2.5m long, serene, hammam-inspired bathroom may be small but it is high on impact thanks to its extensive use of green concrete paneling and bespoke bath and basin. In Charles Holland’s house, the similarly modest-sized bath and shower rooms are a triumph of retro sanitary wares, vintage wallpaper and bold colours, with a playful tiling reference to Superstudio thrown in for good measure.

The House Recast, London

‘Essentially we were playing a lot. The whole thing is a box of surprises,’ says Ben Allen of his practice’s The House Recast, a transformed end-of-terrace Victorian house in north London that won the main prize at this year’s New London Architecture’s Don’t Move, Improve! Awards.

He’s certainly right about the remarkable bathroom, a tranquil, top-lit space inspired by a Turkish hammam. The new room, part of a two-storey rear extension, is small in space at 1.8m wide by 2.5m long but big on impact courtesy of the vivid green concrete that not only forms the bath and basin, but also lines the floor and lower wall.

Studio Ben Allen was keen to limit the material palette to create an elemental feel to the interior and minimise distractions – even the mirror is folded away into the wall. The solution was specifying floor and wall precast panels of pigmented concrete from Concreations, which also cast the bespoke sink and basin, the latter inspired loosely on those in hammams. The same panels form two benches, one extending from the side of the bath, the other as a plinth for the basin. Drainage slots are incorporated into the floor.

The extensive concrete was the main material cost for the bathroom at £16,400 (excluding VAT). It was complemented by intentionally quite primitive-looking spouts for the basin, bath and shower. For these, the architect sourced bent brass pipes and other components and worked with a metalworker to turn them into the finished fittings. For the cross-head handles, the practice stripped back Dornbracht chrome taps to reveal the brass underneath.

The distinctive ceiling is the other key feature. The clients were interested in a skylight, and the architect responded with a series of ceiling louvres that screened the Velux window and filtered the light.

‘The idea for the vaulting was to give a greater sense of enclosure and connect with the idea of the hammam, although these were often domed,’ says Allen, who feels that ceilings are often an underused resource in architecture.

For The House Recast, these were created simply by the contractor in MDF and painted, along with the plasterboard walls, in moisture-resistant paint. The louvres also house lighting. A single window above the bath is shielded with a CNC-cut screen on the exterior created in waterproof MDF. This forms part of a larger expanse of salmon coloured painted MDF cladding the rear extension.

Credits

Architect
Studio Ben Allen
Structural engineer
Entuitive
Selected suppliers
Concreations (interior concrete panels, basin and bath), Fish Fabrications (metalwork), Sanitaryware – Dornbracht

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Opposite The hammam effect is reinforced through the creation of a vaulted ceiling of painted MDF. Hand-made water spouts are counterpointed by off-the-shelf taps, stripped of their chrome coatings to reveal the brass below.

Anyone for a flamingo pink basin? Or a green concrete bath? Expressive bathrooms are alive and well judging by the projects featured over the next few pages. In these, we feature three bright and bold bathrooms realised through deft use of retro elements and imaginative, bespoke design.
Left: A yellow, 70s ceramic sink and high-end, red Vola fittings clash not only colours but also luxury with the discarded.
Right: Consciously kitsch and trompe l’oeil effects make the ordinary of the extraordinary.
Below: Facing the mirrored bath panel, a large circular mirror creates a double-imaging effect.

Charles Holland bathroom, Deal

“It’s quite a DIY project,” says Charles Holland of the new bath and shower rooms he designed for his own home in Deal, Kent.

Low budget it may be, but as you’d expect from Holland, the ex-FAT founder responsible in collaboration with Grayson Perry for the House for Essex, the results are anything but banal, from flamingo pink sink through to bright orange taps and Superstudio-inspired tiling, not to mention vintage tropical-patterned wallpaper.

The house is one of a pair of 1860s, semi-detached houses originally built to house military chaplains. As part of ongoing improvements, Holland tackled both the bath and shower rooms, and used them as a test bed for his long-held interests in pushing the boundaries of current tastes, and exploring how taste changes and loops back into fashion.

“We’re interested in old DIY books and where ideas come from, and disappear to. The death of Terence Conran prompted renewed interest in what he was doing in the 50s, 60s, even 80s. The invention and pleasure in bathrooms is quite amazing, and makes you think that current tastes can be quite anodyne,” says Holland.

He refers to the vivid room as ‘almost an imagination of what a Richard Rogers bathroom would be like in 1972’.

“I really love colour and the visceral pleasure you can get from that,” he says.

Star of the show is the Harvest Yellow hand basin. This was sourced from Broken Bog, a company specialising in discontinued sanitary lines from decades ago, often in retro colours more strident than is customary today. Avocado green is only the tip of the iceberg – if you’re looking for a flamingo pink bath tub, this might well be the place for you.

The hand basin is teamed rather gloriously with the one luxury item of the room – twin Vola HV1 taps in orange with a matching trap.

“This is worth spending a bit of money on the things that need to work really well,” he says.

The colour doesn’t stop there – a well as a Traffic Red towel rail from Column Rads, the shower room features a Sorrento Blue toilet, also from Broken Bog.

The colourful ensemble is offset with white floor and wall tiling – inspired by the endless grid of Superstudio’s Continuous Monument – with dark grey grouting.

The small bathroom features a pink hand basin from Broken Bog, but even this is overshadowed by the 1970s tropical American wallpaper, sourced from eBay. The idea, says Holland, was to channel a ‘glamorous Miami hotel’ vibe, helped also by a mirrored bath panel and black and white chequerboard ceramic tiled floor.

“This time the taps are classic brass from Aston Matthews’ Tradition basin and bath tap range. Previously specified in the House for Essex, Holland likes them for their archetypical, neither old nor new quality.

“We’re using mostly quite inexpensive things and trying to do playful things with them,” he says.

Credits
Design: Charles Holland
Selected suppliers: Aston Matthews (bathroom basin taps); Broken Bog (sanitary ware); Column Rads (shower room towel rail); Vola (shower room basin taps)
The most unusual feature is the concrete vanity unit, which has been custom-made and incorporated into a mid-century modern sideboard with a mirrored cabinet above. MW Architects was inspired by the circles on the doors and commissioned twin circular basins, which were cast in a silicon mould in concrete to match the pale pink of the facing wall. These are inset in a plinth on top of the cabinet, with the plumbing concealed within the cupboard, which otherwise remain functionally for storage.

‘Concrete isn’t a perfect material. The benefit is that when you make something bespoke, you get tiny imperfections that just add to the overall look,’ said architect Clare Paton.

The basins are half way down the length of the bathroom. To one side, a curved glass panel partially screens views of the wet area at the far end without losing some of the expansive length of the room. This area contains a shower and an elegant white bath with encaustic cement tiling above a white and turquoise bold geometric pattern.

‘We kept the tiling to that area as the pattern is very bold and we knew it would be a bit overwhelming everywhere,’ says Paton. ‘Specified from Victoria & Albert, the two-see long Barcelona bath exactly fits the width of the room. Another reeded glass panel screens the toilet nearer to the entrance of the bathroom. Throughout, the architect specified a porcelain floor tile from World’s End Tiles, chosen for its concrete-like appearance and value for money. A Vogue heated towel rail was specified in a gloss finish.

The result is a combination of contemporary, vintage and heritage components. ‘Neither the client nor we wanted the finishing to be too matchy-matchy, or of one particular style – the rest of the house is such a mix – but the rest of the house is such a mix – but the result is a mix between the old and new,’ says Paton.

The development, led by Daniel Berry of ATD Design Solutions, began with a smaller specification of one en-suite bathroom. However, once the work began and the homeowners saw the quality of work and systems involved, they requested further work to be carried out, including additional bathrooms and the waterproofing membrane Schüller-Duro-35 in the downstairs living area.

The low/height drainage system Schüller Kerdi-Line-G1 installed in each of the bathrooms ensured simple level access for an area which would be far trickier to achieve using a standard drain. This was particularly apparent in the initial en-suite, which was specified with a two-way fall in the shower. The features were stylishly developed with flush transitions, coming together first by scrivend the shower floor and then using Schüller Kerdi-Shower-LTS sloped shower board to create the required fall. U-shaped channel profile Schüller-Deko-G2 made the attachment of a glass screen possible without damaging the waterproofing layer under the tiles.

Berry commented: ‘When a bespoke area is specified within the room, you find that it makes the most sense to use products from the same manufacturer where possible. Within the two-way fall in the shower, he is using Schüller’s drainage system and shower board, both in height and ideal for the task hand.’

Underfloor heating provided a sense of luxury and warmth to the bathroom floors, and using the Schüller-Duro-Fast Duo electric heating system makes this easy. While offering low assembly heights, the benefits of a system like this one include sound reduction and fast warm-ups. Schüller’s profile trims were used in abundance in the bathrooms due to the variety of features and finishes into the range. This meant the tiles matched perfectly for a seamless finish.

‘Some of the various profiles, including Holly Quaker and Fine, really enhanced the overall look of each bathroom,’ added Berry.

‘This pair did not require the assurance that the tiles would be protected, made the decision to use Schüller’s profile trims a simple one.’

A notable use of the Schüller-Diles profile was carried out in the open plan living area where the floor tiles met the patio doors. To allow for perimeter movement, Diles-BWA was installed in the colour black. Not only did this offer the flexibility required for the tiles to sit against the patio doors, it also perfectly matched the colour of the door to offer a harmonious finish.

‘I am always impressed with the quality of Schüller’s products and services,’ concluded Berry. ‘Whether installed behind the tiles or to the side of the tiles, all the Schüller’s products and services work perfectly in harmony to stand the test of time.’

‘This high-end residential project has showcased some fantastic examples of Schüller products in situ, demonstrating how they can help construct features with the two-way fall in the shower and offer reliable protection of tiles and stone installations, thanks to the range of profiles available.’
Canada’s Riobel is ready to enrich the European brassware market

If you want a stylish tap that works well, get a plumber to design it. So thought Riobel founder Mario Bélisle, whose ‘inside out’ designs look good too.

There are few more competitive industry sectors than the European brassware market. From German giants to English artisans there is abundant choice, but would be easy to dismiss the chances of a Canadian brand succeeding on this side of the Atlantic. Especially one established by a plumber called Mario.

Introducing Riobel, a business that has thrived by doing things differently. Riobel is based in Québec, a fiercely independent province where European avant-garde meets North American flair. Its rich cultural life imbues the city with an instinctive creativity. When third generation plumber, Mario Bélisle, became frustrated with the taps he was given to fit, it was natural for him to try to do better. Approaching design from a plumber’s perspective, he identified problems around installation, maintenance and reliability that he felt he could address.

Although Mario designed his taps ‘from the inside out’, he had an architect’s eye for beauty and form, and from the beginning his designs had a distinctive edge. Today Riobel offers a unique range of award-winning brassware: products in practice.

BATHROOM COLLECTIONS

**Paradox**

The Paradox collection brings two opposing concepts together in perfect harmony. The layout of form and space creates a dramatic architectural style. The advanced engineering behind makes the Paradox a perfect combination of performance and design purity, luxury for every day.

**Perseus**

The new Perseus bathroom collection has rapidly won the hearts of design professionals, who appreciate its elegant form and functional design. The unique design concept emerges from the sink, with a single cylinder, curved basin that creates a stunning presence in every bathroom. The collection’s minimalist design is perfect for an elegant and sophisticated bathroom.

KITCHEN COLLECTIONS

**Ludik**

A striking sculptural design, the Ludik hand mixer is an iconic form, suited to a wide range of kitchen styles. Precision engineered for high performance, the Ludik features a pull-down handset with beamformer technology, featuring a trigger spray and stagnation stop.

**Mystic**

The urban Mystic collection brings the design of modern kitchens, complementing modern and transitional styles of kitchen. The Mystic hand mixer hose with high quality gives the pull-down spray head exceptional reach and control.

**Solstice**

The award-winning Solstice is a sleek and chic kitchen tap, a modern minimalist design of perfect proportions. Boomerang™ technology, effortless to use, and it also benefits from a pull-down handset with beamformer™ technology.

**Venty**

Venty is a unique contemporary style, sharply inspired by organic forms, with equal balance and delicate curves. The sleek form of the neck and finely polished handles convey an essence as often missing in modern design.
Specified

1 Via Maestra 'Passaggio' upc Paesaggi

Welcome, dear Billionaire, to Mars Earth. Mr Musk is excited to greet you, so please proceed to your luxurious bleach drip, to our new viral flushing lounge contact. You will then be escorted to their PROTECT® line silver ion tiles to take full advantage of their carbolic cleansing cubicle to greet you, so please proceed to Mars Earth! Mr Musk is waiting for you, we will show you to your carbolic cleansing cubicle.

2 Wing Edgy eco efficient WC

We农业大学 a Prima, does not imply these WCs are Ecological and not to a character in Falstaff turned out to be a skinnytrimmings that Shakespeareland is famous for. Our host Mr Falstaff turned out to be a skinny gentleman and quite miserable. His partner Neil Quickly (the Instagram plates lady) welcomed us to their private kitchen for fancy tea and edamame nibbles. His partner Neil Quickly (the Instagram plates lady) welcomed us to their private kitchen for fancy tea and edamame nibbles. His partner Neil Quickly (the Instagram plates lady) welcomed us to their private kitchen for fancy tea and edamame nibbles. His partner Neil Quickly (the Instagram plates lady) welcomed us to their private kitchen for fancy tea and edamame nibbles.

Solutions

Effective solutions are readily available – acoustically optimised pipework, such as Geberit’s Silent-db20, is a proven solution and was used in the YouGov commissioned by Geberit in April 2021: More than a quarter (26%) of respondents said they were regularly affected by bathroom sounds, including toilet flushing, drainage and pipes. Yet there is still very limited information or guidance in UK regulations on the impact of noise from public health services such as wastewater, or plumbed fuel. This 1.5m tall product with the option of electric or plumbed fuel. This 1.5m tall product with the option of electric or plumbed fuel. This 1.5m tall product with the option of electric or plumbed fuel.

Instead, architects, specifiers, building designers and installers should be breaking the silo approach and asking the right questions around product specification to provide better outcomes for clients, developers and end-users.

At the heart of this lies product choice, highlighting the issue

Four internal acoustic offset wellbeing, In a YouGov poll of 1257 homeowners commissioned by YouGov, commissioned by Geberit in April 2021:

- More than a quarter (26%) of respondents said they were regularly affected by bathroom sounds.
- More than half (52%) of respondents said that these unwanted noises at home have a negative impact on their wellbeing.

For more information, visit www.geberit.co.uk/acoustics

Bathroom 05 A Arcauto Series guest bath. Above right: Dualit concealed dishwash Sigma21 with iCon WC.

Geberit’s Sophie Weston explores the importance of taking a whole-building approach to acoustic performance, including drainage

As the world continues to get noisier, building designers, specifiers and contractors have an increased responsibility to consider acoustics in their projects. However, current standards offer vague recommendations and little guidance for designers, which can lead to missed opportunities. A new Geberit white paper has revealed how a whole-building approach to acoustic performance, including drainage, is central to creating a peaceful environment.

In a YouGov poll recently commissioned by Geberit, more than half (52%) of homeowners said unwanted noise in their home had a negative impact on their wellbeing. Yet one of the biggest challenges until now has been that internal acoustics in building design is mainly concerned with heating, ventilation and air conditioning, with little or no consideration given to drainage. These familiar with the relevant standards on building noise will note that they mainly centre on mechanical noise from HVAC equipment. BS 8246:1995: Guide to Insulation and Noise Reduction in Buildings simply states that water systems including hot and cold water services and waste pipes ‘are not to cause disturbances in normal use’.

This poses a challenge, particularly when research shows that building occupiers and users are affected by bathroom noises too. For instance, our poll showed that no more than a quarter (25%) of homeowners are regularly affected by bathroom sounds including the toilet flushing, drainage and pipes. Yet there is still very limited information or guidance in UK regulations on the impact of noise from public health services such as wastewater.

The onus, therefore, is on the industry to take lead. This means taking a whole-building approach – to extend the scope of noises beyond just HVAC and consider the choices required to deliver a fully silent approach to reducing building noise.

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Maggie’s Centre, Southampton

In general, hospitals are not patient-friendly. Illness shrinks the patient’s confidence, and arriving for the first time at a huge NHS hospital is often accompanied by unnecessary anxiety,” wrote Maggie Senko in her 1994 text A View From The Front Line, after her diagnosis of returned and new cancers. From her thoughts emerged the Maggie’s Centres, adjacent to but separate from hospital buildings, in which anyone affected by cancer can seek support.

AL_A has completed the latest Maggie’s at Southampton General, a typically labyrinthine accretion of wards, services and parking across a swathe of the city’s northern suburbs. Having been presented with the small site of a redundant house and garden marooned in a car park, the architect proposed to refigure vehicular access, eking out more space to enable its idea of a New Forest glade. Inspired by a series of photographs of a framed view onto four seasons of foliage in a book by Jencks on Chinese gardens, AL_A composed a form with a similar tight relationship to dense, enclosing landscaping – sinking the site to create a small surrounding mound that buffers it from the cars and monotony outside. Architecturally, the building has two key elements: four rectilinear ceramic walls which penetrate the building envelope, dividing areas of the garden as well as having internal spatial uses and four small boxes enclosing staff room, counselling room, quiet room and WC.

Materiality is key to both elements. On those four right-angled walls, a rhythm of glazed fins captures, ripples and reflects light. Formed of structural ceramics, they continue AL_A’s use of the material at Lisbon’s MAAT museum and London’s V&A extension. Working with Cumella of Barcelona, the architect developed four types of ceramic block which simply stack one on another to form external-to-internal walls, with a system allowing insulation where required, structural re-enforcement, and moments of sightline – for instance allowing staff to observe if a visitor enters the building.

The wall grid is offset from the site and car park, so the entrance directly addresses the route from the oncology ward, architecturally supporting the physical and psychological journey as approaching visitors may still be digesting news of a diagnosis. From the trees, the building is designed to appear in a welcoming light, with the face of the ceramic fins glazed in light pink and blue, set against an Inox-Color manufactured dimpled stainless steel sheet that wraps the external faces of the private boxes. Once inside, a user looking out may see the fins’ reverse side, clay tones gently reflecting a ripple of light from the glaze, offering a warming sense of enclosure.

A low-maintenance concrete floor throughout is polished with a radial process that plays with light in a similar way to the external steel cladding. A single oculus light, carefully placed off-centre to maximise the path of the sun, focuses on the central shared table as a space of sharing food and conversation. Elsewhere, the four walls divide the building into various smaller spaces for individuals or groups, while the four boxes offer sound-insulated privacy for separation, contemplation, and counselling.

For visitors undergoing long-term treatment, AL_A has created a space of withdrawal that will subtly play with the seasons, using a simple toolkit of elements to carve a reflective space within the tarmac, clutter and anxiety.

AL_A creates spaces of reflection and contemplation with privacy boxes, open-plan spaces and ceramic walls within a new densely-planted glade.

Words: Will Jennings Photographs: Hufton+Crow
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Specified

1. Dekton 4mm and 8mm sheets
   Cosentino
   “Nothing says executive washroom like a vast expanse of smooth, professional, textured grey, does it? Every morning I pull up my Bianchi and come in here for a quick post-ride shower, and I look at these Dekton 4mm Kreta walls, and the 8mm Lunar floor, and I recall the material’s carbon-neutral lifespan, its ultracompact production from 20 minerals, and its UV, scratch, stain and thermal shock resistance. And I say to myself, I say: ‘Col mate, you’ve arrived.’ So what do dayglo booty shorts say then, Colin? What do your Mamilian Lycra skimpies say?”
   cosentino.com

2. Synestesia marble-effect slabs
   LEA Ceramiche
   “[Phone ring] ‘Hello! Hello! Yes! This is Marilyn! Oh Mrs Kennedy! Yes… Yes…’ Not He did say that – but – Mrs Kennedy, I turned him down! I don’t want to live in The White House! I love my new little bungalow. I’ve just fitted the kitchens out in LEA Ceramiche laminated porcelain slabs. Mr Kennedy, they remind me, actually, of the big onyx lighter on the President’s desk. They are resistant to stains, and scratching, and completely impermeable. And, Mrs Kennedy, they repel dirt can withstand a lot of heat – and some, I’ve heard, like it hot…”
   leaceramiche.com

3. Aluminium cell ceilings
   Hunter Douglas
   “Welcome to The End of the Universe! Milliways diners, please dock your ship with our automated valet Marvin, and make your way to your table. If you are viewing the cataclysm from our foyer, the stars of the galaxy are arrayed overhead, clearly visible through our open, light, corrosion-resistant aluminium cell ceiling. Please take a moment to appreciate the way the installation masks the plenum and frames the space – if you’ll pardon my pun. This ceiling’s amazing durability is about to be demonstrated. Stars will explode in... 4… 3… 2…”
   hunterdouglas.co.uk

4. Dormakaba horizontal sliding walls
   Style Partitions
   “‘They’ve escaped! The Typical Teenage Trifl! They’ve escaped from the Indigo Eat and Smile enclosure in the Human Zoo!’
   ‘Dammit! That trio was one of the last non-breeding sets in captivity! They must have pinched the keys to the premium milled locks on the easy-to-operate dormakaba horizontal sliding walls! Get Style Partitions on the phone – and fast! They’re exclusive UK distributor now, they’ll know what to do.’
   ‘Hold on… I’ve spotted them!’
   ‘Where? Oh, on their damn phones, with a Dirty Burger – three feet from where they woke up.’
   style-partitions.co.uk

Products in Practice September/October 2021
ribaj.com

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   “[Phone ring] ‘Hello! Hello! Yes! This is Marilyn! Oh Mrs Kennedy! Yes… Yes…’ Not He did say that – but – Mrs Kennedy, I turned him down! I don’t want to live in The White House! I love my new little bungalow. I’ve just fitted the kitchens out in LEA Ceramiche laminated porcelain slabs. Mr Kennedy, they remind me, actually, of the big onyx lighter on the President’s desk. They are resistant to stains, and scratching, and completely impermeable. And, Mrs Kennedy, they repel dirt can withstand a lot of heat – and some, I’ve heard, like it hot…”
   leaceramiche.com

3. Aluminium cell ceilings
   Hunter Douglas
   “Welcome to The End of the Universe! Milliways diners, please dock your ship with our automated valet Marvin, and make your way to your table. If you are viewing the cataclysm from our foyer, the stars of the galaxy are arrayed overhead, clearly visible through our open, light, corrosion-resistant aluminium cell ceiling. Please take a moment to appreciate the way the installation masks the plenum and frames the space – if you’ll pardon my pun. This ceiling’s amazing durability is about to be demonstrated. Stars will explode in... 4… 3… 2…”
   hunterdouglas.co.uk

4. Dormakaba horizontal sliding walls
   Style Partitions
   “‘They’ve escaped! The Typical Teenage Trifl! They’ve escaped from the Indigo Eat and Smile enclosure in the Human Zoo!’
   ‘Dammit! That trio was one of the last non-breeding sets in captivity! They must have pinched the keys to the premium milled locks on the easy-to-operate dormakaba horizontal sliding walls! Get Style Partitions on the phone – and fast! They’re exclusive UK distributor now, they’ll know what to do.’
   ‘Hold on… I’ve spotted them!’
   ‘Where? Oh, on their damn phones, with a Dirty Burger – three feet from where they woke up.’
   style-partitions.co.uk

Products in Practice September/October 2021
ribaj.com

Specified

1. Dekton 4mm and 8mm sheets
   Cosentino
   “Nothing says executive washroom like a vast expanse of smooth, professional, textured grey, does it? Every morning I pull up my Bianchi and come in here for a quick post-ride shower, and I look at these Dekton 4mm Kreta walls, and the 8mm Lunar floor, and I recall the material’s carbon-neutral lifespan, its ultracompact production from 20 minerals, and its UV, scratch, stain and thermal shock resistance. And I say to myself, I say: ‘Col mate, you’ve arrived.’ So what do dayglo booty shorts say then, Colin? What do your Mamilian Lycra skimpies say?”
   cosentino.com

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A masterclass in making better places to learn in

A preview of the issues raised in RIBAJ’s education webinar offers some useful points for study

Words: Michele Woolgar

Eric Douma Landscape Architecture

**1 Education**

**A masterclass in making better places to learn in**

A masterclass in making better places to learn in...
2 Offices

We can make the changing office a better place to work

Office buildings were adapting to changing work patterns before Covid-19 struck. As people trickle back, architects and suppliers discuss ways to make workplaces for the future.

Words: Michele Woodger

With coronavirus lockdowns now having theirPause by the government, those of us still working from home are left wondering what shape ‘normal office life’ will begin to take. This webinar brings together six experts to discuss how products, materials, designs and social trends are facilitating suitable and inspiring office architecture today. The case study examples are pre-pandemic, yet seeing how they fared in 2020 belies a sophisticated MEP strategy, including covered seating and high-level lighting in the workplace, in terms of flexibility of spaces, not just workspaces.

Funston explains how spray-applied acoustic coating [the plan] as not to impede the flexible rearrangement of workspaces below. Acustic attenuation was also key to the refurbished 1925 project for pharmaceutical company Promega UK, situated close to the M27 motorway on the University of Southampton Science Park (listed near a meadow, arboretum and farm). The client requested an aspirational, bespoke and homely offering, considering itself ‘soft-touch employer with good employee retention’ says Tobias Kee, senior project architect. This ethos is evidenced in the architectural response; the new facility is split into two wings joined by a garden. A glass facade (Saint Gobain). A grassy courtyard space below, making it safer for all concerned.

The workhorse of any office building is its restroom. At the Hilton’s UK headquarters, the £7 million project is its restroom space. An uncluttered and low-density interior belies a sophisticated MEP strategy, including radiant panels in the roof hidden by a Hunter Douglas ceiling and pipework for heating and cooling integrated into a concrete pavers. The work environment is comfortable and appealing and Tombola has also commissioned work on the neighbouring listed Rose Line building (its original office) and adjacent building in pursuit of its campus ideals.

From a landmark roof to an under-performing wall, the spray-applied acoustic coating was also key to a 3M refit for pharmaceutical company Promega UK, situated close to the M27 motorway on the University of Southampton Science Park (listed near a meadow, arboretum and a farm). The client requested an aspirational, bespoke and homely offering, considering itself ‘soft-touch employer with good employee retention’ says Tobias Kee, senior project architect. This ethos is evidenced in the architectural response; the new facility is split into two wings joined by a garden. A glass facade (Saint Gobain). A grassy courtyard space below, making it safer for all concerned.

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Hugh McEwen, partner at Office S&M, details three of his procurement favourites.

SMILE PLASTICS
We use waste materials as being valuable in and of themselves, instead of using a recycled version that aims to imitate its virgin form. This is because we want each material to tell a story, as Smile Plastics do. Sheets of Smile Plastics are fused together from various waste plastics; this working (left) is made with white plastic smiley faces and black drainpipes. We used a range of waste materials in Ski-Doo House, based on conversations with the client about re-use. She founded Online, an online clothes subscription service that tackles fast fashion by lending. In this way, her interest in reuse was carried through in the story told by the materials of her new home.

MIRRL
We use colour as a building material, in the same way as bricks and mortar. On top of its spatial properties, colour contains immense meaning. For Upstate Diner House we installed a bespoke Mirit working in the kitchen and bathroom. Mirit is a solid surface material on an acrylic polymer substrate. It is highly resilient, long-lasting, waterproof, food-safe, and repairable. Mirit was chosen by the client because it reminded them of New Zealand paua, or abalone. Meanwhile, the purple of highland heather and the lush green of mountains represented the client’s Scottish and Irish heritage.

AIRLITE
Architects can have an impact on the climate emergency and can increase awareness. As part of Shape Newham, a community-led initiative creating 18 public space projects in eight town centres, residents in Let’s Lift highlighted pollution to us. Our Pollution Gate shelters residents from pollution and the weather, and provides ‘badges’ for us to act more responsibly. The entire sculpture is painted in Airlite, which acts as a photocatalyst to turn pollution into harmless salts. So this little gateway will clean the air that passes over it, and help everyone to clean up Newham. The Pollution Gate is created in five Airlite colours.

CHIM-CHIMNEY
Our appetite for ‘urban experiences’ knows no end. It began with the London Eye (even though the ‘Moven’ bit at the end offers little more than catching your face on the camera as you’re bursting for the loo) and the less said of Westminster’s Marble Arch Mount the better. So it’s with some reserve that we await the 2022 opening of IFF’s 10m high Battersea Power station ‘Chimney Lif’ offering 35 people at a time ‘breathtaking, 360˚ panoramic views’ of the city. Probably not unlike those afforded to poor 12-year-old sweep George Brevent KJI, the last unfortunate to get run up a chimney in 1875; though at least he didn’t fork out for the privilege.

MAKING PUPPY BEG
Last month Guggenheim Museum Bilbao launched a crowdfunding campaign to raise funds to restore the ‘down’ bit at the end offers little more than a crowdfunding campaign to raise funds to restore the loo); and the less said of Westminster’s Marble making. ‘Puppy’, which sits outside its main entrance. Turned out upgrading its steel skeleton, internal lighting and geotextile facade will cost around €200,000, to make it fit for the future. Now, outside any national collection of art, the general public probably wouldn’t bat an eyelid at being asked to stump up for an acquisition, but since its Wiki citation puts the collective worth of the Guggenheim assets at around $US250bn, could its directors be, ahem, looking up the wrong tree?

‘HOW MUCH DOES YOUR BUILDING VISUAL, MR FOSTER?’
As urban zoos globally reinvent themselves as humane and relevant, at London Cecil Price’s grade II-listed, 1965 Snowdon Aviary is being stripped of its 3800m² of transparent metal mesh panels in a multi-million pound overhaul by Foster + Partners, to house the zoo’s Colobus monkeys. As a result, its name will be changed to ‘Monkey Valley’; a rebranding that would surely not have impressed one of modern architecture’s most sharp-witted visionaries. In honour of Mr Price’s quotable ‘If I could ask for anything, it would be a very large building’, we take the liberty of appropriating Buckie’s question to that above.
A stunning marble effect porcelain tile available in 5 colours and 2 large format sizes.