

Products in Practice Jan/Feb 2014

Doors and windows

Viacom building London

Interiors

Bonhams' sumptuous makeover

Roofing Kimbell Art Museum Extension

Cold applied liquid waterproofing

Analysis: Energy efficiency

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'The learner...

...is now the master.' So intoned Darth Vader in the famous scene where Obi-Wan Kenobi gets it in Star Wars; but as well all know from the sequels and prequels, the power of The Force ensures Alec Guinness will be back to haunt him.

Renzo Piano might well have cause to look over his shoulder now his extension to Louis Kahn's Kimbell Art Museum (p12) is complete. Building in the shadow of greatness can be a poisoned chalice; it is not for the faint-hearted, and is a testament to the architect's ego, running to the very core of their genius. So this light-drenched pavilion, a kind of Kimbell Museum in negative, will be forever held up to the dark mirror of his former master; as Jacobs Webber's technicolour revamp (p28) is destined to be compared to Farrell's postmodern eggcup building that it supercedes. In a sense both are about re-interpreting light and shadow, and the modern preoccupation with lux levels in a

way that wasn't formerly a concern.

Sunichiro Tanizaki's 1933 book 'In praise of shadows' educated the west on aesthetics born of Edo-era codes and thinking, and highlighted the importance of both light and shade. George Lucas' Jedi, based on the Samurai, would have followed similar codes; and egos notwithstanding, perhaps remind us that all architects should have a little 'dark side'.

Jan-Carlos Kucharek, Editor







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Compendium



She sets sea shells...

In the recent surge of New Ornamentalist projects even the likes of Caruso St John have come up with nothing like this — a whole room made of shells. Referencing 18th century picturesque grottoes, Yorkshire based Linda Fenwick's work springs from an early obsession. She made shell curios as a child, and the scale grew as she did. With each commission painstakingly done by hand, she's looking to 'go commercial', though how she'll manage the workload — short of turning into an octopus — is anyone's guess.

Flushed with prize

PIP's recent beer and bratwurst-fuelled press trip to washroom cubicle manufacturer Kemmlit's Stuttgart factory by necessity involved a number of trips to the loo – conveniently facilitating a good long look at its new range of high tech NIUU cubicles. Well built and sturdy, each slick metal door pull is set with a laser-like red LED light to tell you when it's occupied – a bright idea that won it a coveted Red Dot Award.



Shake it all about

It's all change at on the banks of the Seine in the Boulogne district of Paris, where the old LMT Society factory, built in 1927 to manufacture telephone control units, has been refurbished. French firm DTACC Architecture was commissioned to reconfigure the original building and create a landmark extension holding an entry lobby, pavilion, cafe, restaurant, fitness centre, boardroom and auditorium. The IN/OUT campus' 'Bocage' building is a bush-hammered concrete core with two wings formed of curved glass and vertical timber cladding. Topping it all is an iridescent roof of petrol-coloured stainless steel tiles, whose colours change according to the angle of the sun, giving a dynamic elevation with a scarab-like quality.

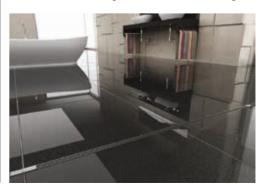


Nifty shed's not grey

Not a grey in sight for Buckley GrayYeoman when it was asked to remodel the Black&White building in London's fashionable Shoreditch for client The Office Group - which has picked up on the desire for flexible, characterful office spaces for entrepreneurial businesses. BGY completely refurbished the dilapidated property, creating 1020m² of flexible workspace over three storeys. After paring the building back to its brick and timbers, to give it an identity, the firm painted the exterior all black and the interior completely white. The 'Clubrooms' breakout space encourages companies to interact, all beneath industrial lamps that, uncharacteristically for the area, aren't even designer: the architect says you can get them from Screwfix!



Standing in the shower in your birthday suit, the word 'discreet' might not immediately spring to mind, but keep looking down and if you've installed an Aquabocci Bläde shower drain, it might well apply. Sounds Italian, but Aquabocci is Australian and has set up in London, providing understated anodised alloy drains in five sleek colours – alloy because even stainless steel couldn't handle the challengingly damp Aussie coast. Anyway, it must be a nice change for them to see metal bars set horizontally rather than vertically!







UPCOMING

Surface Design Show Business Design Centre, London, 5-6 February **UK Concrete Show** NEC, Birmingham, 27-28 February



Business school converts to Stirling

There's something of James Stirling's Neue Staatsgallerie entrance to the redevelopment of Durham University's £16.5m business school, designed by GSS Architecture. The building is topped off with an 'iconic', fully glazed, naturally ventilated extension, which the architect claims has turned a transient corridor into the effective social heart of the new facility. With the curved form meaning every pane of glass was unique, the Glulam timber structure was modelled in 3D for fabrication. Counter pointing this, two other new wings were added which echo the University's more traditional collegiate quadrangle form. The business school, one of only a handful in the UK with triple accreditation, has clearly made the leap to Big Jim via the Big Bang.



La Cosa Natura

Italian building chemicals manufacturer Kerakoll has put its money where its mouth is and commissioned a €15m GreenLab in Sassuolo, Modena. The building refers to the hilly topography and the firing kilns that used to pepper it. It's a strange form I'll grant you, but it's fuelled by sustainable thinking — with a low carbon footprint and low VOCs. It's heated by geothermal heat pumps and photovoltaics shade the south facade, while the only grass is in front of the south elevation, contributing to its microclimate.

Part Deco

Too aware that few projects will be endowed with the kind of lavish budget Caruso St John had for its Art Deco inspired refurbishment of the £45m Tate Britain, it's nice to know that similar effects could be achieved at a more affordable price. CStJ's achingly on-trend monochrome patterning at Tate is echoed in Devon&Devon's 'Plume' pattern. The bathroom brand, run by architect entrepreneurs Gianni and Paola Tanini, and based in the very un-Devon-like city of Florence, was founded in 1945, taking its inspiration from the Jazz Age and the architecture of the British Stately home. If curves aren't your thing, there are triangular, diamond and Butterfly forms, letting you cut various shapes on the floor, even if you don't do the Charleston.



Ship Shape and Bristol fashion

The role of Bristol as one of the British Empire's great shipping ports is set in history, and while the 'glory days' of the East India Company hegemony and slavery are over, allusions to the city's seafaring past are rife. So it's no surprise to see architect BDP referencing the hulls of ships in the public areas of new £430m Southmead Hospital. The state-of-the-art Brunel Building opens this year with 800 beds, 24 theatres, patient gardens and even a helipad. Its main concourse atrium is fully glazed, nicely showing off the way LSA Projects clad the stair cores in Scandinavian firm Gustav's timber panels to make a natural-looking feature. And with the en-suite bedrooms naturally ventilated too, it proves BDP's commitment to sustainability is more than skin-deep.





All good in Guernsey

Hampshire practice Design Engine's success in the education sector has extended to Guernsey too. The gallic-sounding £20m Les Beaucamps School opened last year − its main block beautifully executed in brown brick with a handsome and welldetailed timber colonnade and walkways that lend a sense of grandeur while providing shade.

The mood continues on the roof, where VM Zinc has fitted its black zinc standing seam roof, articulated by crisply detailed natural ventilation chimneys and sidelights to common corridors. The 8650m² school won an RIBA regional award, pupils and parents love it; and there's a sports block and swimming pool yet to come. Will this pleasure never end?



Its a wrap!

This handsome Edwardian building in Soho, London, was home to one of the country's first public cinemas. The corner site's recent star-studded makeover saw Mumford & Wood fit all 80+fixed casement windows in the three-storey arched main office elevations, yielding a traditional look with up-to-date thermal and acoustic values. Highly commended by the British Woodworking Federation, the refurb's a performance that's making 'em sit up in their seats...

Brewed awakening

The joke in 1986 when Lloyds of London completed was that it started off in a coffee house and ended up in a percolator -areminder that long before Costa and Starbucks, the capital was no stranger to coffee. Architecture firm TILT acknowledges this in its latest project, the Proud Archivist, designed to elegantly revive London's coffee house culture by creating a simple, cool place in uber-cool Hackney. The 500m² space is decked out with a long bar and double height 'library wall' of white-stained spruce ply, while the gallery area, which uses Forbo linoleum, has a 'light wall'. Above, the 100seat restaurant has impressive views over Regent's Canal. Using a limited palette, TILT has hung untreated larch ceiling fins at 90° to the reclaimed mahogany floor.



LTATE

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It's not easy finding a supplier whose support network is just as good as their products. Which is why I was so pleased with Marley Eternit's overall offering. They provided me with the traditional materials I was looking for and technical guidance for my complex rainscreen design. After an initial consultation and site survey, their Technical Services recommended the Birkdale fibre cement slates. The performance, design flexibility and colour match were key in helping the building naturally bed into the surrounding landscape and also added real value to the facade solution I had in mind.

Rob Martin - Architect - Tally Ho Training Centre Nicol Thomas Architects



Loving the Rhino



As a student I remember watching with awe and horror as a tutor walked us through a drawings set of a project he had done several years BC (or 'Before Computers', as AA tutors of the period referred to architecture pre 1995). It was a drawing of a fiendishly complicated interior fitout full of swirling walls and shwooping stairs all punctured by big conical sections.

Aside from gaining our unequivocal respect in the same way that one must admire the achievements of those who built Machu Picchu without the wheel, the exercise was meant as an introduction to a new piece of software doing the rounds at the time. As our tutor explained, this amazing new program reportedly made by a bunch of Autodesk defectors, was digitally the closest thing you could get to the way you would describe complicated geometries by hand through traditional means, as he had done with those shwooping stairs.

Intuitive for anyone with even the most basic grasp of descriptive geometry, Rhino allowed us to be methodical and precise, while For many years we used
Rhino with Autocad, a
David and Goliath duet, the
heaviness of one setting off
the lightness of the other

being profusely experimental at the same time. It opened the floodgates of our undulating-surface-obsessed imaginations, entirely super-seded anything that came before, and since the turn of the millennium has remained the only constant among relentlessly superseded CADware. Affordable for a small company in a peripheral market with a weak currency, its maker's attitude was the opposite of the software behemoths that seemed both to price most people out, and lock in those who could afford it.

For many years we used Rhino with

Autocad, a David and Goliath duet, the heaviness of one setting off the lightness of the other. Where I work now the program was used only peripherally, but with time it has gained more and more prominence, winning over staff one by one. Nobody uses Maya anymore, it is always Rhino with Microstation, which in any case will soon disappear as the latest coupling of Rhino+REVIT, the BIM duo, takes over.

Documentation and most of the work will always be done in Autodesk or Bentley's lumbering Goliath, but like the sprightly sidekick to a super-hero, Rhino is always there providing back-up, just in case. Recently the product department 'upstairs' has discovered its charms, although without the accompanying licenses to appease their enchantment. In order that any request for a license to be made free be fulfilled, they are required by us, on loudspeaker, to bellow like a Rhino. They do. Often. It truly does continue to please after all these years... • Adam Nathaniel Furman is a designer working at Ron Arad Architects

Surface Design Show

So maybe people do take the new kid on the block seriously. The Surface Design Show, now in its 11th year, is earning its stripes in the competitive world of construction showcases; and while modest visitor numbers keep the feel homely, the exhibition will have over 130 exhibitors showcasing the newest, most cutting-edge and inspiring interior and exterior surface products. And in contrast to a lot of shows out there, those who do visit pack some financial punch. Nearly three quarters of those that attended last year — of whom more than a third were architects — had a purchasing power in excess of half a million pounds.

To kick off this year's event, the RIBA Journal will host a preview evening on 4 February. Architectural broadcaster and former RIBA president Maxwell Hutchinson is planned to chair a panel of leading architects and experts debating the material concerns of traditionalism, modernism and the vernacular;

discussing whether modern surfaces can worthily represent the agendas of any – or all – of them. The next evening, architect and agenda-pusher Cany Ash will chair a lively Pecha Kucha evening with architects, creatives and academics, whose rapid-fire string of seven minute presentations will, she promises, be 'crafted, mini-performances rather than rambling talks'.

Presentations during the event will keep attendees up with the latest trends in new materials – including lighting, with Sharon Stammers of Light Collective bringing together the industry's leading, ahem, lights for some inspirational talks on the subject. Arup will also hold its interactive show '21st Century Fragments', showcasing life-size mockups of their most innovative facades. And underpinning the event, 'Fringe Thinking' is a series of talks and debates headed up by the Society of British and International Design (SBID), the

Association of Interior Specialists (AIS), and Mix Trends offering key advice on design trends.

To cap the event off, the winners of the Surface Design Awards will be announced, offering 12 awards across seven categories in the retail, housing and commercial sectors. There are some hot contenders here on the shortlist, but my money's on Martin Creed and Haworth Tompkins for their beguiling Scotsman's Steps in Edinburgh, DSDHA with its South Molton St building, and just because it looks so compelling, Giles Miller's 'Heart of Architecture' – a strange but beautiful blob of tiny metal shards in front of Clerkenwell's St John's Gate in London.

Join Featherstone Young's Sarah Featherstone as she gives the awards keynote address to see the projects that prove wrong the idea that 'surface' might only mean 'superficial'.

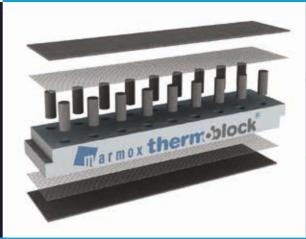
Business Design Centre, London, 5-6 February www.surfacedesignshow.com



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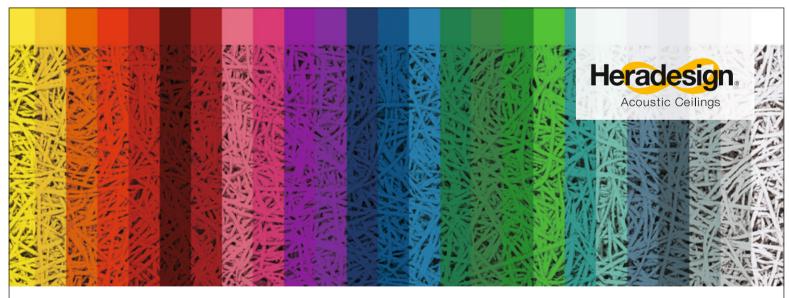




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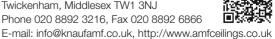
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Made



Mike Byrne Head of research and development



Michael GardnerOperations manager, Preston





What: Sika Liquid Plastics **Where:** Preston, Lancashire

If Swiss construction products firm Sika can make claims about the robust testing regimes of its latest products, few are likely to surpass the challenging demands of the Alpine rail pass that led to its first formulation, Sika 1. A combination of Silicon and Calcium (hence the brand name), it was created by Austrian materials scientist Kasper Winkler in 1910 in response to a the particular problem of how to waterproof the 1882 tunnel that runs 15km below the mountainous Gotthard Massif. The tunnel itself was already infamous, both for claiming the lives of 200 people over its 10-year construction, including its Swiss engineer Louis Favre, and for the workers' insurrection that had to be put down by the army. To this heady mix was later added the problem of ensuring the tunnel's watertightness, due to planned electrification of the line. Sika 1. an admixture in the tunnel's

new cement wall gave a robust, quick-curing crystalline layer, thus sealing the long-term future of Switzerland's subterranean link to Italy.

Sika has not looked back. Headquartered in Barr outside Zurich, it has grown over 100 years to become a global brand active in over 80 countries, with a workforce of over 16,000 and a turnover more than £3.3bn. In the UK, the firm has over 700 employees and three production centres – one in Preston. Sika has diversified, but given that this facility was an acquisition of family-run waterproofing firm Liquid Plastics in 2009, one could say that this plant is following in Winkler's footsteps.

The acquisition has brought investment to the Preston facility, says Sika's Michael Gardner − namely the upcoming completion of the firm's £3m research building, which will bring chemical firm and sister company Incorez under the same roof as Sika's R&D arm. But the challenges now lie less the chemistry of waterproofing, and more in reducing the volume of products

and extending their lives. In a global market both affect its carbon footprint. This depends very much on developing low-odour hardeners, which it is now working on with the Zurich HQ, says Sika's R&D head Mike Byrne. Such work is a response to market demand and the fact that less solvent means the product contains more active waterproofing.

'Traditional oxazolidine hardeners crystallise at low temperature, so you need solvents to keep them mobile at room temperature,' explains Byrne. 'With the new hardeners we are developing now, they are intrinsically lower viscosity and more liquid, so we therefore need less solvent, which also means a lower odour.' The development is reflected in the reduced levels of volatile organic compounds. 'VOCs in typical solvented products are often in excess of 100g/l. With the new generation products, we're aiming to get down to around 50g/l,' he adds.

Testing of Sika's Liquid Plastics water-

Far left Storage tanks for Sika's sister company Incorez, which produces the chemicals for Liquid Plastics' products.

Left The head of one of the standard double-skinned mixing vats. Sika is now testing a larger auto-fed state of the art model.

proofing products is always ongoing – the firm's current R&D facility is full of its Decothane product being stretched, baked, doused or left in water, frozen to -20°C to check for brittleness and pierced in dynamic and static testing. The regime even involves samples being sent to America.

'To check that we're dealing with long term performance effectively, we send samples for live testing to Arizona, where it's hot and dry, and Florida, where it's hot and wet. We even use heliocentric testing machines that follow the sun, exposing the product to the most damaging effects of UVB light,' Byrne adds. Competitors might want to take note: his 11-strong team of scientists tests rival products here too. It's all part of Sika's plan to stay at the cutting edge of a technology that it first developed over a century ago below the Gotthard Massif's uncompromising peaks. •

Editorial supported by Sika Liquid Plastics. liquidplastics.co.uk

1. WHAT GOES UP...

Sika's Preston plant sits within the site of the former Fishwick cotton mill, built in the 18th century. Most of the plant's product storage facilities remain in its original sheds, its north-lit saw tooth roof carried on beams sitting on delicate steel columns. The main factory works are housed in a three-storey brick structure. Sika explains that the production process is gravity fed: the mixing goes on at the higher levels, processing and filtering occur on the level below, and labelling and storage take place at ground level. R&D and testing of its Decothane product are undertaken in labs at the top of the building. Accelerated weathering processes are carried out in a UVB/condensation cabinet (right), where samples are exposed to temperatures of 50-60°C and regularly sprayed with water to mimic the deleterious effect of weathering, BBA criteria demand testing for only 2000 hours (equivalent to 10 years of normal exposure), but the firm tests samples here for 8000-10,000 hours, to take account of the more challenging South American/ Far Eastern climes where its products are used.



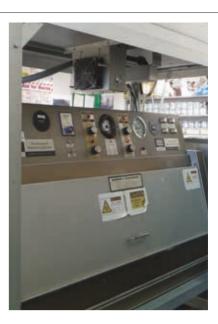
O MIXINO

Liquid plastic products are combined in a range of mixer sizes, only the heads of which are visible from the mixing floor (above). It takes eight hours to process base coats, and 12 for the thicker top coat. Pre-polymer chemicals and additives are combined with pigments to create a batch weighing about 5 tonnes. Tanks are double-skinned, allowing steam or water to hold the mixture within 50° - 55° C. Agitators working with a blade tip speed of 25m/s create a homogenous mix. As water can trigger hardening, isocyanates are added to keep moisture levels within tight limits.



4. QUALITY CONTROL

During processing, all Liquid Plastics' products are linked to batch cards that allow every stage to be accurately monitored and audited. In the colour mixing lab accurate chromatic software analyses mix samples and checks that colour consistency and moisture levels are maintained – stating what needs to be added to return them to correct levels if not. The liquid is then vibrated through a sieve to ensure an absolutely consistent, lump-free mix (above). This is delivered to a holding hopper ready for pumping into cans on the floor below.





3. COMPUTER CONTROL

Isocyanates produce carbon dioxide, requiring an extremely strong internal vacuum in the mixing cylinders to remove it. The whole process is monitored via a central control system that can introduce the vacuum, chemicals, steam or coolant to the tanks at any point. Mixing is carried out in an environment of dry nitrogen gas. After every batch is done, tanks are cleaned with solvent sprays to prevent colour cross-contamination. Guaranteed consistency of batch colour is absolutely critical on larger roofing projects and lab testing during production ensures this (above).



5. TINNING AND LABELLING

Of all Liquid Plastics' products, 90% are made available to the industry in either 15 or 5 litre tins, with the in-house labelling machine connected to a label data safety system to ensure that the correct instructions are applied to each one. Last year 300,000 tins were processed here (above). After it has been filled, the remaining void space of each tin is blasted with dry nitrogen gas to expel any traces of air that could trigger the hardening process. Tins are then sent to the on-site storage depot to await distribution.

Kimbell Art Museum extension, Texas

Renzo Piano's Kimbell extension is both reflection and antithesis to Louis Kahn's museum, light to its dark

Words: Jan-Carlos Kucharek Photography: Nic Lehoux

There is an irony in having to build in the shadow of the Kimbell Art Museum, the 1972 masterpiece by Louis Kahn, a man fundamentally obsessed with light and shadow. But having built a mere stone's throw from Le Corbusier's chapel at Ronchamp only two years ago, it's not a challenge that Renzo Piano shirked. Far from it; the original site for the extension – to the east of the gallery (effectively the building's rear) and separated from it by a road – looked an unworkable proposition to Piano. So, aware that he had to respect both scale and proportion of Kahn's primordial concrete and travertine vaulted lozenges, the architect successfully argued to build on the 'Great Lawn' to its west, part of Kahn's ceremonial entrance and directly addressing the Kimbell's principal facade. This almost confrontational approach has led to some oppositional formal moves that consciously counter point Kahn's work, while manifesting a natural evolution of Piano's own gallery oeuvre. And like the building it responds to, his \$135m extension, which opened last December,

puts all the magic above picture rail level.

At 7500m², Piano's pavilion doubles the area of Kahn's original building and creates two new major ground floor galleries, with below grade auditorium, education, servicing, minor gallery and 135 parking spaces, largely housed beneath a green roof. Since its founding, with limited space, the Kimbell has always sold pieces in order to buy. Over the years, this has meant that although a provincial museum, the quality of works on display has only increased. The new gallery means the Kimbell can show most of this collection and also allows for state-of-the-art modern gallery spaces to host temporary shows and, with its 300 seat auditorium, associated events.

'Even a room which must be dark needs at least a crack of light to know how dark it is,' said Kahn. This thinking very much dictated his approach to the Kimbell, whose long, low concrete barrel vaults are each pierced length ways with a central slit, allowing their polished soffits to act like blotting paper and bleed light across





Left The south elevation of RPBW's Kimbell extension, showing the elemental components of columns, beams and roof.

Below The high performance steel and glass roof with adjustable PV impregnated louvres is an amalgamation of Piano's previous gallery roofs.



their surface. The specular effect is sublime, and wholly suitable for Texas' arid clime, but at around 75 lux it needed augmenting to 350 lux by artificial light to give the correct viewing conditions for art. With his new pavilion, Piano has circumvented this need for artificial light during the day by creating a space that, in a way, acts as a kind of Kimbell Art Gallery in negative. While the confluence of Kahn's 7m wide barrel vaults are reflected with dual 1.5m deep timber glulam beams spanning the full 30m width of both galleries, Piano has inserted between them—instead of imposing curved concrete—a pure, diffused white light to create the antithesis of Kahn's effect.

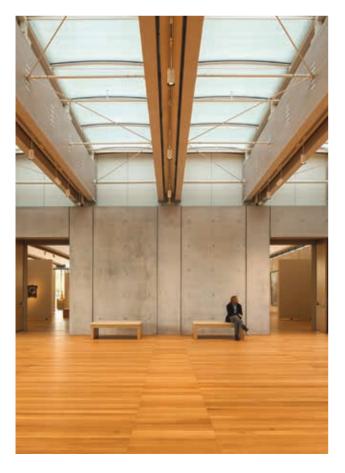
Renzo Piano Building Workshop partner Mark Carroll explains the lightweight roof system for the Kimbell as a development of the gallery spaces that they have worked on for the last 30 years — in particular the Menil Collection in Houston, Switzerland's Beyeler and the High Museum in Atlanta. 'The difference is that here there was no carte blanche; we needed to follow Kahn's basic rules, but also to respond to them

in our own way,' he says. 'With Kahn, the views are all internalised but our building is all about transparency and drawing as much light into the building as we could.' The strategy has resulted in the formal massing of the buildingeffectively one storey, with full glazing to the north and south and 1.5m thick concrete cavity walls to the east and west. Between the two main galleries runs a large daylit lobby and reception space connecting the galleries to each other and the auditorium/archive/carpark level, allowing views east to the Kimbell. Above it all, delicately poised on spigots over those deep dual cross-laminated timber beams, runs Piano's lightweight steel and glass roof structure, cantilevering out at its ends 3m over the pavilion's external concrete columns. With 40m of clear space between the cavity walls and the columns, and filled with homogenous light, the galleries are a model of flexibility.

The roof here represents a sublimation of all the other gallery roofs that RPBW has designed, and responds to the need to optimise light quality and minimise resultant heat gain as part of

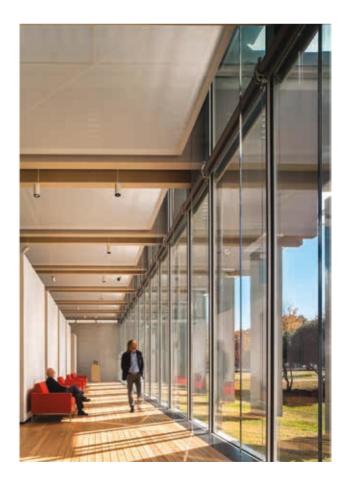
a larger mechanical ventilation and sustainability strategy for the pavilion. 'In Texas, light and heat need to be strictly controlled. Usually you would shade, then filter the light and add photovoltaics separately; here Piano has integrated all three functions into the one roofing system,' explains Arup lighting designer Arfon Davies. The resulting sections are double glazed, krypton-filled, lower level curved panels, above which sits a louvred panel whose uppermost faces are impregnated photovoltaic cells. The louvre panel size is dictated by the glazed module below and keeping it to a size that a single person can open for maintenance.

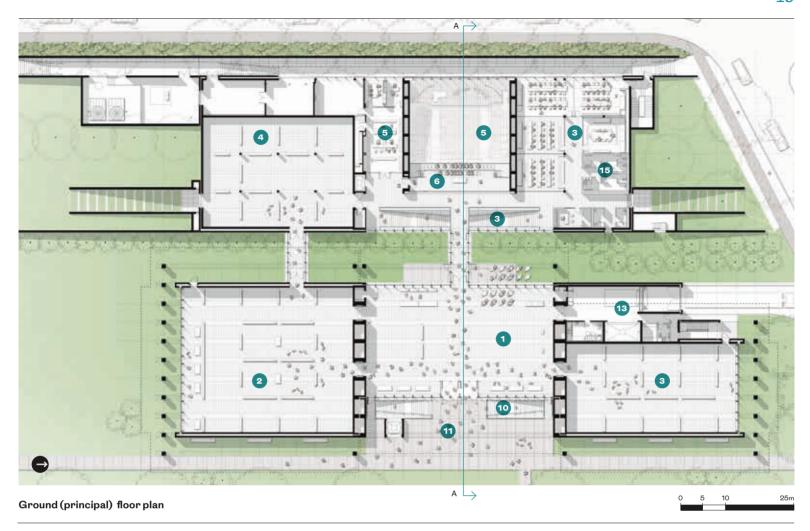
He adds that the louvre panels operate independently of each other using mechanical worm drives to maintain tight control of light in the galleries: from flooding them with light down to almost blackout conditions for videos. Davies explains that the louvre system does not actively move to control the light throughout the day, however. This is mainly done by the frit and diaphanous fabric scrims running between beams below the level of their interstitial



Left The dual glulam timber beams, spaced 3.5m apart, are spanned by subtle, curved, double-glazed panels and crossbraced. Lighting and sprinklers run discreetly between them

Right Gallery heights run to over 6.8m. Fabric skrims provide a diaphanous light to internal spaces.







East west section 0 5 10 15m

- 1 Lobby
- 2 South gallery
- 3 North gallery
- 4 West gallery5 Auditorium
- 6 Balcony
- 7 Members'room

- 8 Education suites
- 9 Stairs down to auditorium
- 10 Stairs down to car park
- 11 Port cochére facing original museum
- 12 Tunnel connection to west wing (beneath green roof)
- 13 WCs/Servicing space

- 14 Archive/store
- **15** Carpark
- **16** Original Kimbell Art Museum
- 17 Westlawn



Above View looking north west past the south face of Kahn's original museum to the Piano extension.

cross-braced members. And as Davies explains, 'Their usual 45 degree angle proves optimum conditions for the PV cells on the outer face, offsetting around 20% of the building's carbon footprint through the PV installation and providing additional benefits.'

The low level displacement air conditioning strategy minimises direct light ingress so that temperatures can readily be held at a steady 72°F with a relative humidity of 50% +/- 5%. Louvres also close to act as a security layer for the roof of the pavilion by night, and ,along with the shutters on the main glazed facades, control diurnal interior temperatures. They even protect against extremes of weather: namely the county's notorious hailstorms. 'The louvres can almost instantaneously be flipped to 180° in "hail mode", protecting both the glass roof and the PV cells,' he adds.

All the beams were pre-cambered at 9in to allow for the natural slump of the beam over its 40m length and additional dead loads from the roof structure itself. Externally, the subtle

curve of the glazed panels directs water to an insulated aluminium gutter detail above every double beam. Internally, these beams carry hidden lighting tracks and sprinkler systems; this is the first gallery RPBW has lit using LEDs.

How successful the pavilion will be as an adjunct to Kahn's timeless gallery only time will tell, but RPBW has at least partly played on its own terms. Carroll says that while Kahn's structural bays and massing have been respected, it's clear the two are grounded in different architectural approaches - one ontological, the other functional. 'We followed the rules that we could. We were very keen that our building and Kahn's were engaged in an ongoing dialogue,' he concludes. This supposition should be no surprise as Piano apprenticed with Kahn from 1965-1970; but the resulting volumes facing each other across the Great Lawn - one drenched in homogeneous light, the other with it seeping through narrow slits - speak of a world now concerned more with apparent revelation than its darker recesses.

AIR CARES

Although Becci Taylor was Arup project manager for the Piano extension she can't help but talk about the air handling in Louis Kahn's original museum. 'I couldn't work out where it was running – it turns out there's no horizontal distribution at all at gallery level,' she says. Instead, the Kimbell has a double basement with the plant room bang in the middle of level -1. 'Only one piece of plant serves the whole building and it's massive. All the ducts run down from it to level -2, it's distributed horizontally there and then pops back up to ground within its 300mm concrete walls to serve the gallery. It's quite intelligent as a services distribution strategy,' she adds.

Piano's extension uses its east and west concrete cavity walls as part of the air handling strategy in its galleries, but here they're extracting displacement air at high level. Taylor says most of the heat gain mitigation has already occurred due to the louvres shading the low-e glass roof panels, but as it draws exhaust air from the gallery it also takes any hotter stratified air lingering at the glazed ceiling soffit.

The real genius is in the innovative floor of the column-free spaces that Arup developed with RPBW, says Taylor, as it was always about keeping the galleries free of service risers and obstructions. The team developed 400mm dual concrete slabs and 50mm sleepers above to create a void through which to run supply air. 'Every 100mm plank has a 2.5mm gap to allow supply air to feed through evenly across the whole floor, creating a truly 'breathing floor', which we think is a world first,' she says. This lets gallery spaces maintain a temperature of about 72°F and relative humidity of +/-50%.

Taylor says there is also more than just one air handling system. 'There are different plant systems zoned by use and location. The larger room deals with highly serviced spaces, like galleries and auditorium, but the smaller one deals with less demanding ancillary zones where things don't need to be as controlled,' she adds.

Owner Kimbell Art Foundation

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Executive architect Kendall/Heaton Assoc
Project manager Paratus Group, New York, NY
Construction manager The Beck Group
Structural engineer Guy Nordenson and
Associates, New York
Lighting Arup Lighting, London
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2 SOLfixx solar panels Bauder

Say what you like about religious orders, they know how to pick a location. Wherever you go in the world, the most beautiful corner always has a monastery or some sort of retreat perched complacently at the viewpoint. Tintern Abbey is one of Wales' most scenic such spots, but not remote enough to escape Henry VIII's wrath. Now its visitor centre has a new Bauder roof with up to the minute SOLfixx Plus solar panels. All very cosy, but is it really necessary? The Abbey's managed without any roof at all for centuries but it hasn't stopped the visitors! bauder.co.uk

3 Fibre cement tiles Marley Eternit

What a delightful spot to go to school, in this charming Victorian building at the heart of the scenic Welsh valleys near Aberdare. It has been reroofed using Marley Eternit's Rivendale fibre cement slates, combining a cost effective covering and traditional aesthetic. It's hard to imagine this idvllic scene in the cauldron of pit closures and the miners' strike, a particularly turbulent time in Wales' recent history. But the children of the area may still remember hearing the last live gig by band the Crass - keeping less a welcome in the hillsides than anarchism for the strikers. marleyeternit.co.uk

4 Rooftop decking John Brash Decking

Brash by name but not by nature judging by this FSC-accredited rooftop decking on the Wigmore Street development in London's West End. JB Antislip Plus Classic meets a host of regulations and looks like hardwood luxury while actually being made of affordable softwood. Marion Mellon, on a shopping spree to Wigmore St in 1877, should have tried this approach. Exceeding her dress budget bigtime at Debenhams, she had the shame of seeing hubby Alfred refuse to pay the credit bill, setting a famous legal precedent. The only credit to mention here, however, is the admiring sort. johnbrash.co.uk









5 Metal Web beams Wolf Systems

A lot goes on between floors, as this 'construction uncovered' image reveals. It's a complex mesh of beams, pipes and cables, interweaving like a spider's web. Funnily enough, this is the apt name for Wolf Systems' light, strong structural beam shown here. Its steel and timber Metal Web can be incorporated into MMR components, allowing structures to be speedily spun into a secure and comfy space where ceiling/floor maintenance is as easy as sitting at the desk below, browsing today's kind of web. They've thought of it all there's no flies on this Wolf. wolfsystem.co.uk

6 Raised flooring Buzon UK

What links a grand hotel visited by film stars and royalty, a training HQ for the RAF, and a students' hall of residence? Well Hamilton Grand in St Andrews, Scotland, which is all about links, has been all three, and now exists as exclusive apartments. Buzon UK pedestals support decking on the balconies which - and here's the other reference to links - offer views of the Old Course golf links and the dramatic coastline, Corrosion-resistant. they can withstand salty North Sea air, safely allowing plaid clad residents to relax and relish views of golf or sea with a wee dram. buzonuk.com

Hydrotech

Aware the Emerald Isle's lushness is due to its prodigious rainfall, Irish architect Heneghan Peng sought foolproof waterproofing for the roof of its cavernous Giant's Causeway visitor centre. But what would legendary local giant and Causeway creator Finn McCool have made of Alumasc's Hydrotech Hot Melt system? Dispatching his aggressive Scots neighbour more with cunning than bravado, our hero might have been tempted by its dry billet for the baby impression that terrified his adversary, rather than stalking the cliffs in a downpour, chucking basalt columns about. alumascroofing.co.uk

8 Kemperol membrane Kemper Systems

It's all very well for those luvvies strutting the boards within calling on the winter elements to swell the curled waters 'bove the main – but the National Theatre, part of the Brutalist South Bank complex on the Thames, is a trendy outdoor hangout too, much used by Londoners. When its balconies started leaking onto the public walkways below, Kemper stepped into the breach, applying Kemperol 2K-PUR to reseal the substrate without disruption of strip-out or hot works. So blow winds and crack your cheeks; cataracts and hurricanoes, spout! We're still dry! kemper-system.com

Costed

Christopher Lee, quantity surveyor with Capita, looks at roofing finishes

There is a vast and varying spectrum of roof finishes; tiles, built up roofing, single ply membranes, metal sheet cladding, timber, green roofs, etc. Most can be applied as either pitched or flat roof finishes. A flat roof is generally defined as having a pitch of 10° or less.

Typically, compared to a flat roof, a pitched

roof will require about 10% additional roof covering, although clearly this assessment also depends on the particular circumstances.

Many factors influence the selection of a roof finish and consideration must be given to all, particularly to the use of the space below the roof and how that may be affected by the

specified finish.

It is critical to the installation of all roof finishes to make sure contractual responsibility for design detailing is defined and clear.

As the applied finish plays such a critical part of the building's life it is always worth considering taking up a latent defects warranty.

Costs exclude main contractor preliminaries and overheads and profit, roof structure, insulation (unless stated), drainage, etc. All prices quoted are exclusive of VAT and correct as of 3Q2013. Rates below assume works are undertaken in the London region and to an area of approximately 500 m²

Tiled finishes	
Natural slate tiles, pitched, standard uniform size, underlay	£50-60/m²
Natural slate tiles, pitched, standard uniform size, underlay	£50-60/m²
Synthetic slate tiles, pitched, standard uniform size, underlay	£50-70/m ²
Reconstituted slate tiles, pitched, standard uniform size, underlay	£50-65/m²
Timber shingles, pitched, western red cedar, uniform length and size	£50-65/m²
Clay tiles, pitched, standard uniform size, underlay	£30-40/m²
Concrete tiles, pitched, standard uniform size, underlay	£26-38/m²
Fibre cement slates, pitched, standard uniform size, underlay	£38-45/m²
Metal finishes	
Copper sheet roof, flat, with membrane	£70-120/m²
Copper sheet roof, pitched, with membrane	£80-150/m ²
Copper standing seam roof, pitched, with membrane	£85-155/m²
Aluminium standing seam roof, flat, quilted installation,	
vapour control layer	£65-80/m²
Aluminium standing seam roof, flat, ridged installation,	
vapour control layer	£85-100/m ²
Stainless steel sheet roofing, pitched	£85-120/m ²
Lead roof covering, milled lead, laid flat	£65-90/m²
Lead roof covering, milled lead, to pitch	£70-100/m²
Zinc profiled roof, pitched, standing seam appearance	£50-60/m ²
Membrane and built up finishes	
Bitumen three-layer modified bitumen system, laid flat	£50-55/m²
Bitumen two-layer modified bitumen system	£40-50/m²
Bitumen felt roofing system, laid flat, with solar reflective paint finish	£55-65/m²
Mastic asphalt, applied flat, to concrete substrate	£12-28/m ²

Single layer sheet roof, warm roof covering, vapour control	
layer, insulation and water proof membrane	£65-70/m²
High performance rubber roofing, flat	£45-65/m²
High performance rubber profiled roof, pitched,	
standing seam appearance	£55-60/m²
High performance liquid applied membrane	£55-60/m²
Air cushion roof (ETFE type roof)	£700-900/m²
Fibresheet roofing	
Corrugated fibre cement	£28-35/m²
Extra over cost for transparent GRP sheeting to match	£20-40/m²
Glazed	
Glazed roofing; traditional style with wire reinforcement	£500-£550/m ²
Glazed roofing; timber framed	£450-550/m²
Glazed roofing; aluminium powered coated framing with	
factory applied solar protection film	£300-400/m²
Landscape roof	
Sedum roof, laid flat, with waterproof layer, separation layer,	_
drainage and installation layer, etc	£125-175/m²
Extra over cost of roof walkways	
600mm x 600mm precast concrete slabs, laid directly and	
fixed on flat roof finish	£50-58/m²
1000mm wide rubber anti-slip walkway, laid directly and	
fixed on flat roof finish	£60-65/m²



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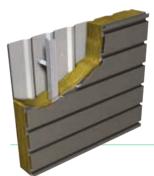


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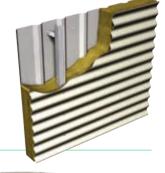
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Energy efficiency

Real routes to green living

Designing sustainable homes to fit the way people live could make an energy-efficient future a reality

Words: Stephen Cousins



One of the world's biggest experiments in sustainable construction, the Internationale Bauausstellung (IBA international building exhibition) in Hamburg, came to a close last November following a seven-year research and development phase that saw an entire district of the city transformed with new energy efficient infrastructure and buildings.

The IBA was no traditional building exhibition. Backed by the Hamburg Ministry of Urban Development and Environment and around 40 private investors, it encompassed over 60 structural, social, economic and cultural projects spread across 35km² covering the Elbe islands.

Under the theme Cities and Climate Change (others included Cosmopolis and Metrozones) the exhibition aimed to show how a city can grow simultaneously with sustainability. Central to this was the 'Renewable Wilhelmsburg' climate protection scheme, on the city's largest river island, where several dedicated sustainable energy production projects were set up to provide heat and power to its 50,000 residents.

Above The Energy Bunker was a flagship project of the Hamburg IBA, supplying heat to 3000 homes and electricity to 1000.

These projects included the 'Energy Bunker', a World War II ruin retrofitted with renewable technologies; and the Energy Hill, a former toxic landfill site converted to harness solar energy and wind power to supply around 4,000 households with electricity. Renewable Wilhelmsburg will be expanded to meet the district's total power requirement by 2025 and its heat requirement by 2050.

Meanwhile, in the suburb's centre, the 'Building Exhibition within a Building Exhibition' included several cutting edge sustainable demonstration apartment blocks featuring the latest smart facade technologies. These included the Woodcube, a five-storey block built almost

entirely of untreated timber and designed to be the first fully-biodegradable building with zero net carbon emissions throughout its life cycle. The BIQ apartment building has the world's first bioreactive facade – growing microalgae in glass tubes and using it to produce energy and control light and shade (RIBAS September 2013).

Sustainable capacity

'The exhibition's most innovative approach was to prove that our cities have the capacity and ability to create a great deal of their energy demand sustainably and by themselves,'explained Uli Hellweg, managing director of IBA Hamburg. 'Our three new energy and heating grids, which include the Energy Bunker, a district heating grid under Wilhelmsburg Central and a deep geothermal energy grid now under construction, will be able to deliver 13-15% of Wilhelmsburg's housing demand by 2015. And by 2050, despite a 40% population increase, we expect to be able to meet the entire demand of the district's housing stock through energy performance improvements to buildings and five sustainable heat and power grids.'

IBA Hamburg's most publicised project is the Energy Bunker, which inhabits the concrete shell of a former air raid shelter. For 60 years the structure's outer shell, with its 3m-thick walls, served as a war memorial.

Realising the opportunity to sustainably reuse the existing structure, and its capacity to function as a decentralised heat and power station for the local neighbourhood, IBA Hamburg kitted it out with renewable technologies, including solar panels and a wood chip burner that feeds into a gas combined heat and power unit. It also built-in the capability to harness waste heat from nearby industrial machinery.

Power generated by the solar panels is channelled into Hamburg's electricity grid, but perhaps the building's most innovative feature is its large-scale heat buffer, whereby heat and waste heat produced by the various systems

This project shows that if you listen to residents' needs you can design accordingly
This is especially important in cities

is stored in around two million litres of water housed in large tanks inside the structure.

'This approach has great potential. Housing typically creates a large heating demand in the evening and overnight during autumn and winter, which means ramping up your central energy plant's power and size accordingly,' said Innes Johnston, partner and engineering team leader at consultant Max Fordham. 'But a large store of water can be heated constantly at a lower temperature during the day, and discharge it at night. It means you can run energy plant pretty much constantly at a lower heat load, increasing energy efficiency. Plant can also be much smaller, maybe half the size,' he added.

The Energy Bunker has been supplying local households with electricity, hot water and heating for over a year and once fully operational, in 2015, it is expected to generate around 22,500MWh of heat and almost 3,000MWh of electricity, heating around 3,000 homes and supplying electricity to 1,000. This will save roughly 6,600 tonnes of CO_2 a year.

Layered approach

The capacity for long term heat storage was a concept exploited by the Smart is Green demonstration apartment block.

Designed by Zillerplus Architekten und Stadtplaner München, the five-storey Passivhaus building features a 'layered' facade that combines a vertical garden to create a heat shield in summer, highly insulative glazing, and large transparent panels of phase change materials (PCMs) that store and release heat throughout the year and effectively enable the building to generate more heat than its residents require.

The salt hydrate-based PCMs are in a constant state of flux between solid and liquid and in the process of changing between the two states, thermal energy is absorbed or released at a constant temperature. The materials absorb solar warmth during the day and release it into apartments at night, and absorb excess heat from inside during the day to prevent apartments from overheating.

Although not a new technology, this is thought to be the first time PCMs have been installed in sufficient quantities to deliver the year-round heat that Passivhaus requires.

'PCMs offer a simpler answer than solar thermal water storage, as they don't require pipes, pumps or a water store, and the translucency of



Above The Smart is Green block in Wilhelmsburg pioneers the use of phase change materials on a big scale.

the PCM curtains is novel,' said Max Fordham's Johnston. 'They are interesting for retrofitting although one issue is the high cost of rolling out PCMs on a large scale development.'

Standing alongside is another Passivhaus block, built almost entirely of timber using traditional-based techniques and no man-made adhesives, glues, wood preservatives, insulation materials, chemicals, paints or plastics.

Designed by Architekturagentur from Stuttgart, the Woodcube is mostly biodegradable and will produce net-zero carbon emissions throughout it's lifecycle.

'We tried to achieve a ${\rm CO_2}$ balance for all materials used in the Woodcube,' said client Ralph Frenzel at Deep Green Development. 'While concrete (used in the basement), or glass and metal (windows), produced emissions during manufacture, the huge amount of wood used more than offset this thanks to carbon sequestration.'

With a U value of 0.16 W/m^2K , the walls' thermal performance is almost as good as a conventional Passivhaus and the entire building was erected in just five weeks by four workmen using just hand tools and a single crane.

Efforts to reduce carbon emissions during the building's manufacture included harvesting local wood and drying it in the open air for two years to avoid the use of ovens. This also increases the timber's strength as sap produced in the summer can cause weaknesses. Meanwhile, a photovoltaic system on the roof, LED lighting and a smart metering system dramatically cut the building's heating demand and energy load.

'Our greatest challenge was convincing the authorities that using so much exposed, non-chemically treated wood would still provide sufficient fire protection,' said Frenzel. 'Typically in Germany you are not allowed to build this high using timber, but we were able to show that these thicknesses would still deliver 180 minutes of fire protection before the structure lost stability and static functionality.'

Long term impact

Other projects at IBA Hamburg had a less obvious, but potentially longer term, impact on approaches to sustainable development. The Global Neighbourhood residential development, started in 2009 and due for completion in mid-2014, involves the modernisation, reconstruction and expansion of several streets in Wilhelmsburg. Rather than work to standard German housing designs, residents were given a central role in the design process through inter-cultural planning workshops and direct dialogue with students from Hamburg University who asked about residents' living situations and their concept of 'home'. Their comments helped form the basis of the redesign competition, which was won by Krause-Feyerabend-Sippel Architektur + Innenarchitektur.

'The Global Neighbourhood was all about innovation in how a project is approached,' said Thomas Beney, principal consultant on climate change at consultant Capita Property and Infrastructure. 'It's all well and good designing buildings with energy efficient facades, renewable technologies and heat recovery systems, but if it doesn't work culturally or a family likes opening windows to get fresh air, it falls flat. This is especially important in cities, which have a mix of cultures and dense populations. This project shows that if you listen to residents' needs you can design accordingly.'

Hamburg's commitment to the ongoing monitoring of projects also sets it apart from other exhibitions and demonstrator projects, adds Johnston. 'Feedback on the performance of buildings is a historic problem, but it is vital to help the industry move forward and learn from its mistakes. The IBA's Hamburg Energy Partnerships will meter and audit buildings in use and feed the results back into design. It's perhaps this, above all, that will determine whether Hamburg's innovations will become applicable elsewhere and on a larger scale.'



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1 Biomass boilers Windhager

As you huddle over the single electric bar this winter, here's a story to warm the cockles of your heart. At Canons Brook Golf Club in Essex the combination of cold winters and ever-rising fuel bills meant keeping the members cosy was becoming a problem. But the government's Renewable Heat Incentive, which offers financial help to businesses using renewable energy, made Windhager's biomass boilers the obvious choice. It's not only given a new meaning to golfing green, but now the clubhouse is so toasty it must almost be worth learning how to play the game. windhager.co.uk

2 Earthwool insulation Knauf

DIY SOS, the TV home makeover show that parachutes in to rescue refit crises, has reached new heights in completely rebuilding Little Miracles, a support group centre in Peterborough for families that have children with special needs. Knauf played its part, donating (with distributor CCF) 210m² of its Earthwool loft roll insulation in 100mm and 150mm thicknesses, and warming users physically and viewers metaphorically in the process. As the show's very own Buzz Lightyear, the rugged Nick Knowles, might say: the feelgood factor goes to infinity and beyond. knaufinsulation.co.uk

Optim-R Insulation Kingspan

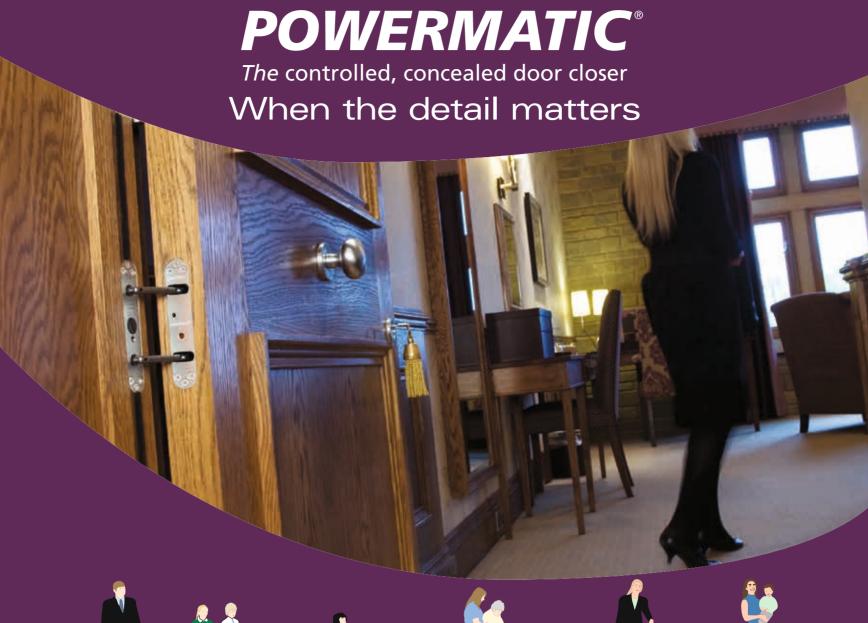
Balconies are just so popular nowadays that even when your brand new home is surrounded by a thick blanket of grass a private, raised outdoor space is a musthave. This trio of houses near Headingley in Leeds caters to this trend without compromising either energy efficiency or space. Kingspan worked the magic using its 40mm Optim-R vacuum insulated panels and Thermaroof TR27 LPC/FM, to produce a U value of 0.14W/m² without encroaching on the bedrooms below. Hmm, it's enough to bowl a maiden over.

www.kingspaninsulation.co.uk

4 Solar canopy Polysolar

As part of its bid to become 'Britain's greenest grocer', Sainsbury's is both zero and hero with its triple zero sustainable stores. Leading the advance are its Weymouth and Leicester outlets, whose many green measures include Polysolar's photovoltaic solar canopies on the filling station roofs. These absorb light from both sides, making it sunny side up and down. And although the technology works even with low levels of ambient light, the canopy turns out to be the retail giant's corporate colour. So for them, at least, the future is definitely orange. polysolar.co.uk

polysolal.co.uk















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SAMUEL HEATH



Viacom building London

Farrell's famous post modern building has been revisioned by Jacobs Webber and given a new face for 21st century working

Words: Pamela Buxton Photography: David Churchill



For more than two decades after TV-am ceased broadcasting, its iconic Terry Farrell-designed Camden headquarters remained highly recognisable as the breakfast tv station's studios, now owned by entertainment group Viacom.

But now, although the egg cup gables remain, this link has otherwise largely been broken following an extensive reworking by architect Jacobs Webber for Viacom, whose brands include Nickelodeon and MTV. TV-am's original Hawley Crescent facade (left), with its sunrise motifs and elaborate keystone archway, is now gone, replaced by new curtain walling and a living wall-lined courtyard. The rear is more lightly altered, with careful insertion of new and adapted Crittall windows.

When the redesign was announced, the plans were greeted with dismay by fans of the

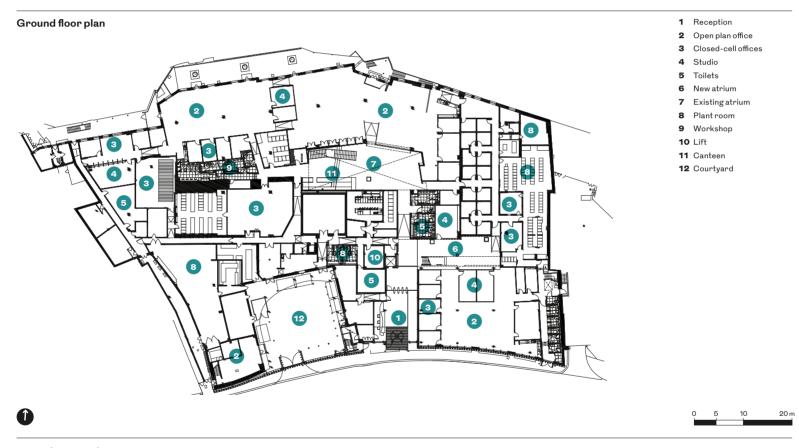
postmodern landmark who wanted to preserve the spirit of the Farrell scheme, itself a reworking of an Art Deco garage and office. But substantial change was inevitable – Viacom needed to completely reorganise its studio and office space if it wasn't to relocate. To make the project even more challenging, transmissions from the site had to continue throughout the 18 month rebuilding programme.

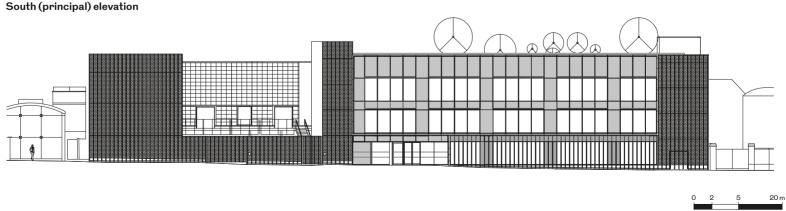
'We didn't want to compete with Farrell's scheme – it was such a product of its time,'says Jacobs Webber director Nic Jacobs, who felt it was more important to find a way of fitting the building into the context of the history and character of Camden's streetscape.

This included a strategy to utilise the neighbouring Elephant House, which avoided redeveloping with a much higher building. This

allowed Viacom to bring creative, admin and managerial staff from other London locations to Camden.

When Jacobs Webber started work on a new masterplan for the site, the two large studios on the windowless south facade were virtually obsolete. Viacom needed less studio space and more modern, better-lit and creatively inspiring office accommodation – tricky in a building with so few windows. Jacobs Webber decided to consolidate the large black box studios away from the Hawley Crescent facade – and incorporated a rear studio too – into two new, smaller positions excavated deep within the plan along with other technical facilities which had no need for natural light. This new technical core freed up the perimeters for naturally-lit office space, and allowed them to











make far more of the pleasant canal-side location at the rear to the north. Edit suites were positioned to the east. Farrell's exuberant internal scheme had long since disappeared by the time Jacobs Webber reworked the main atrium and introduced a second to the east.

'When we arrived there was not much of it left, apart from the egg cups on the canal, the archway and the solid metal cladding on the street facade – and the latter didn't fit with creating a modern office building with users and green standards in mind,' says Jacobs.

The front and rear facades required very different approaches. On Hawley Crescent, the architect looked very hard at ways to adapt the windowless facade with its distinctive horizontal bands of sunrise colour. But the huge steel vertical trusses supporting the 2m thick build up between the facade and the inside of the studio made it impossible to insert new windows. So in the end, the entire front third of the building was rebuilt, though keeping largely to the previous line of the building.

In choosing the windows, the architect had to balance the desire for daylight with a need for privacy, given that the building directly borders the pavement. The solution was Technal's MX GD visible grid curtain walling, which gives, says Jacobs, a very simple aluminium window module with a 50mm standard profile, containing double glazed vision glass beneath

a pewter-coloured solid spandrel panel. The window modules are combined on the ground floor with doubled up, vertical fins that abut the frame to give both privacy and visual impact. These extruded, polyester powder coated, aluminium fins are spaced at 500mm, hung from mullion brackets and tethered into the granite upstand by aluminium bottom stubs. Grouped in batches of five, these have different colours on either side so that when viewed obliquely the facade shows graduated colour. They continue the full height of the facade at either end and around the courtyard. Such bold use of colour seemed appropriate to the building's tv production identity where colour spectrum is continually considered, and it also, says Jacobs, references the bold use of tone and shade in the previous facade and Camden high street.

'The fins give a lot of privacy to the ground floor. It reads as a very solid building along the street. When you approach from one side it reads as a cool spectrum, and from the other a warm one,' says Jacobs.

'It was very important to carry the fins across for the continuation of the streetscape,' says Jacobs. This was maintained with mesh instead of glazing over areas of original Farrell cladding to the south west where the plant was, and over toilet blocks and stairs to the south east.

Rear window treatment was another matter entirely, and followed extensive discussions

Top left Repainted and refenestrated, the north elevation is a toned-down version of its former self – but keeps the eggs.

Top right Terry Farrell's 1983

TV-am building.

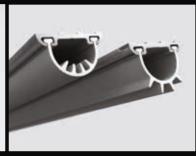
Bottom right The original Henly's garage and office building.

Bold use of colour seemed appropriate to the building's tv production identity and references the previous facade

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with conservation officers due to its canalside location on the edge of a conservation area. Here, the main intent was to preserve the original facade as far as possible, given that the blue and white of the Farrell colour scheme had already been replaced by beige and brown.

The architects worked with the original Crittall steel-framed windows of the former industrial building, renovating them and adapting the frames to incorporate steel-framed louvres at the head of the glazing. This supplies the air-conditioning system with fresh air, the units accommodated within the ceiling to avoid placing any obtrusive plant on the roof. Ten new double-glazed Crittall windows were introduced on the ground floor where the originals had been replaced or blocked up. First floor original windows were renovated.

'Crittall still make the same sort,' says Jacobs. 'The double-glazed replacements have the same profiles as the originals. These formed part of the character of the canal side so our intervention was quite minimal.'

The courtyard off Hawley Crescent was still needed for secure intake of broadcasting vehicles and equipment. Now one third smaller, its appearance has been transformed with the removal of the distinctive but increasingly dilapidated courtyard canopy and the creation of three living walls. These grow around retained original Crittall windows plus eight

new Technal FX165 double-glazed windows to the east. Steel brackets support the board for the substrate of the green wall, with an integrated pipe providing irrigation from rainwater stored beneath the courtyard. Timber decking on the metal gantries will encourage its use as external break-out spaces over the courtyard.

The result, according to Viacom managing director Dave Lynn, is far more in tune with the requirements and activities of a modern, multinational media company.

'We're conscious of the site's heritage as the birthplace of breakfast TV, but the UK media landscape has transformed out of all recognition since the 1980s and we felt we had license to transform the building too,' he said.

While Po-Mo enthusiasts may well mourn the final loss of the Farrell scheme - itself controversial in its day - tellingly, Sir Terry Farrell himself is 'fairly relaxed' about the alterations.

'The building was only meant to last seven years and the design was totally tied to the previous occupant, TV-am Studios,' he says.

This wasn't a building that could be lightly tinkered with and still deliver what the client required. By reworking the site extensively to give a more practical arrangement that maximises light into both facades, the changes have ensured its continued use for broadcasting. And we still, in any case, have those egg cups as a last reminder of its days as the home of TV-am.

Top left The new atrium complements the existing one, which had already been radically remodelled.

Top right The living wall of the courtyard is a soft and surprising counterpoint to the vertical fins of the south elevation.

Client Viacom International Media Networks
Architect Jacobs Webber
Services engineer Hoare Lea
Structural engineer Chamberlain Consulting
Project manager EC Harris
Quantity surveyor MCMS, AAB Consulting
Services

Acoustic consultant Hann Tucker
Satellite consultant Trax communications
Traffic consultant Savill Bird & Axon
CDM consultant HCD Group
Planning consultant DP9
Main contractor Morgan Sindall

Suppliers

- Curtain walling Technal Fins Taurus Littrow International External doors Fitzpatrick
- **Revolving door** Boon Edam **Insulated render** Wetherby **Brickwork** Ibstock
- Green wall Biotecture Internal doors and ironmongery Leaderflush Windows Crittall





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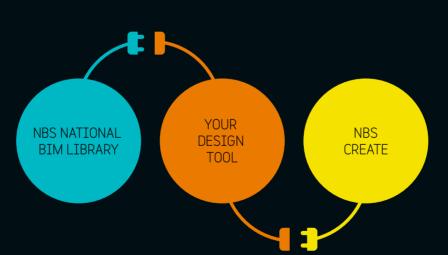
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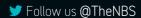


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Optitherm S1 Plus Pilkington

The heating bills keep rising and money's tight enough after the Christmas splurge. We're all sick of partying and just want to curl up by the fire with a cosy hot drink and a good book, away from the snow outside. So don't forget what your granny told you: go and sit in the library, it saves putting the heating on. What's more, it's full of books! Only problem is, those huge glass windows – lots of light and views, but freezing to the touch. Never fear - Pilkington's Optitherm S1 Plus has a Ug value of 1.0... which means you can snuggle down and kick off your Uggs without getting frostbite. pilkington.co.uk

2 Restoration ironwork Guild of Architectural Ironmongers

The very mention of Victorian values brings a chill to the hearts of those who lived through Margaret Thatcher's eleven years of gothic horror. However, back in 1889 gothic style was all the rage and the Scottish National Portrait Gallery used it to make a statement of national pride. In the building's recent refurbishment. Guild of Architectural Ironmongers member Allgood stayed true to Victorian values in its work on the doors – and won an RIBA award in the process. So, in the words of the iron lady herself, the Scots can 'just rejoice' at their skillful restoration effort. gai.org.uk

Hi-Finity patio doors Reynaers at Home

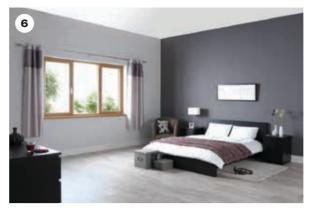
Reynaers at Home's Hi-Finity ultra-slim sliding patio doors are surely the only choice for this streamlined paradise. Whoever is sleek and stylish enough to live in this top notch luxury? Sashaying through those near-invisibly supported glass doors, one hand bearing an iced dacquiri, the other resting languidly on the head of a well-groomed borzoi, even Veronica Lake would look rough here, darling. It's all very geometric: pool reflecting glass panes reflecting polished stone, but while its residents are likely to be more angular than round, they certainly won't be square. reynaersathome.co.uk

Security doors Gilgen

It seems automatic and security doors supplier Gilgen might also be considering a line in philanthropic works. The firm has produced a new range of sliding doors which after testing have passed the latest European burglar resistance standard. Having seen its product resist test attacks by crow bars, club hammers and drills, one wonders whether the screws on B wing could arrange for some of the cons on day release to get work experience using their own specialist skills. It's rehabilitation after all, and would add to the doors' street cred no end. gilgendoorsystems.co.uk









5 Timber doors and windows Lomax + Wood

Those palms could be on the French Riviera; the 18th century elegance hints at Venice; Georgian stone speaks of our own heritage city of Bath. Where is this elegant and perfectly presented villa? It turns out to be on the retirement island for suburbia, the Isle of Wight, the product of a loving renovation. Finding the right sash windows and French doors was no problem for Lomax + Wood: they came, they saw and they conquered with bespoke double glazed timber units that comply with Part L of the building regs. A case of veni, Venice, Ventnor, as we classicists sav.

lomaxwood.co.uk

Modus integrated windows Eurocell

For those of us still miserably clinging to the post-Christmas diet, spreading 'I can't believe it's not butter' on our lettuce and cottage cheese sarnies is the last desperate self-delusion. And associated belt-tightening haunts not only our ravaged domestic purses but all sorts of new year spending. So Eurocell's Modus, promoted as the UK's first fully integrated door and window system, will cheer designers everywhere, offering the U-values, technical performance and the value-for-money of PVC-U but looking exactly like wood. I can't believe it's not timber! eurocell.co.uk

Zero lead time Origin

Have you noticed the insidious domination of the word delivered? Nothing is produced, issued, built, published or even achieved any more, just 'delivered'. Meanwhile, we must wait in all day to receive actual deliveries, weeks after we ordered the item. Well, folding door specialist Origin has thought hard about the D-word and, in the spirit of enterprise, abolished lead times to offer next-day delivery. A truly Origin-al idea, although sadly this sumptuous building in Dubai would still have been stuck with shipping time. All they need to do now is perfect teleporting. Beam the doors up, Scotty! origin-global.com

8 Curtain walling Senior Architectural

When it came to windows for Oakland Retirement Village in Derbyshire there was only one option for Glancy Nicholls Architects: Senior citizens... Oops, I mean Senior's systems. Senior Architectural supplied its Hybrid Series 3 curtain wall and windows for the horseshoe shaped building, which looks more like a private school's new arts wing than a Remains of the Day rest home. Perhaps the design is meant to evoke youthful memories for the inmates – or perhaps its sleek modernity will make heaven's looming comfy armchair look a little less scary. seniorarchitectural.co.uk

Bonhams auction house, London

Bonhams' recreated headquarters has swept to completion with a flourish, despite complications en route

Words: Hugh Pearman Photography: Hufton+Crow

At the top level – Christie's, Sotheby's and Bonhams – London's auction houses are fiercely competitive businesses, operating in an international market. Hence the transformation of Bonhams' £30m New Bond Street headquarters by Lifschutz Davidson Sandilands (LDS), and engineered by AKT II. This is a very clever project, inserting a large, handsome new building almost invisibly into the heart of London's art world. Inside, however, it's all about the theatre of buying and selling.

This is about as prime as a prime site gets in the West End, with an Edwardian entrance on New Bond Street. Fortunately – given that a lot of decanting was needed during the work – there's a secondary entrance through the Art Deco Blenstock House on Blenheim Street behind, a spur off bustling Oxford Street. This building housed temporary salerooms while the project progressed. Difficult though this was – not least with Crossrail works also affecting the site and a lot of party walls – Bonhams was clear that it wanted to remain right here.

It's a strange typology. As Alex Lifschutz says: 'The auction business is very much a cross

between warehousing and office – or museum and office. The item comes in, it generally sits quite close to the people who look at it, assess it, photograph it, value it, write about it, then it goes to the auction, and then it's gone. So the spaces you need are quite generous.'

The objects in question may be fine art, sculpture, jewellery, clocks, furniture, wine or – a Bonhams speciality – classic cars and motorcycles. There are private interview rooms to discuss valuations, and seriously upmarket VIP dining facilities. But the heart of the enterprise are the three large salerooms, arranged in a stack, one above the other.

Outside there are just three elevations, widely separated: a new one on Haunch of Venison Yard, its facade generated by three glass lift shafts; the Art Deco one; and the ultra-slender 1906 facade of the building that gives Bonhams its 101 New Bond Street address, scarcely more than a room wide but five storeys tall and using every trick of Edwardian commercial architectural ornament to get noticed. LDS has hollowed out this building from ground to roof, lining it with undulating walls

and concealed lighting. This atrium gives a sense of occasion to the entrance, which leads via a reception area to the tallest of the three salerooms, the middle one in the sandwich.

They all have the traditional wooden floors and carpeted walls for picture hanging, in a colour resembling imperial purple. The ceilings, finished in glass-reinforced gypsum, do lots of things at once: organised in vaults spanning between the downstand beams of the massively strong floors above, they provide acoustic absorption, lighting, air handling, p/a, and hanging points for key objects – beefy enough to take cars or even planes.

Above the ground floor saleroom is a mezzanine 'skybox' and meeting room for clients wishing to see how a sale is going without mixing with the hoi polloi on the floor. The two steel staircases link the levels. Spraypainted deep blue, they are lined with European white oak veneers with walnut nosings. Throughout there is an air of understated opulence and craftsmanship which is deliberately meant to evoke the feel of a classic British car. I'd say this building is in the Aston Martin class.



Client Bonhams

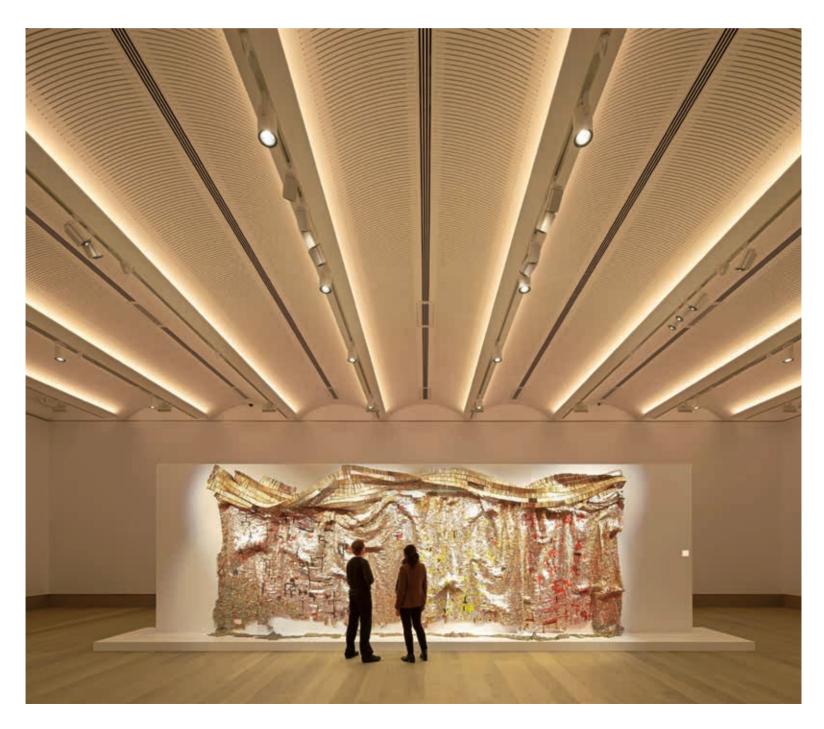
Architect Lifschutz Davidson Sandilands
Structural engineer AKT II
M&E engineers Mott MacDonald
Main contractor Knight Harwood
Project manager Jackson Coles
Quantity surveyor Gardiner and Theobald
Lighting designer EQ2 Light
Acoustic consultant Sandy Brown Associates
Town planning consultant Jones Lang LaSalle

Products used

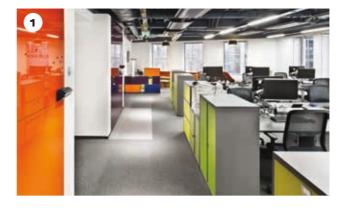
Precast cladding Decomo • Curtain walling Colorminium/Schuco • Oak flooring Dinesen

- Stone flooring CED Lifts Schindler
- Stairs: metalwork Canal Engineering
- Stairs joinery/timber EE Smith Arabescato marble Decoded Ideas Leather wall cladding Bridge of Weir Carpet wall cladding Tretford Stainless steel Evans Turner

Left Well-appointed public circulation areas connect sales rooms with client service spaces. Below The scalloped ceilings of the saleroom spaces (this is the lowest of the three) work very hard to provide lighting, air handling, acoustic absorption and hanging points.



Specified









1 Magnetic memo boards Gx Glass

Cast your mind back a month or so to the office Christmas party... the moment when the sheer animal magnetism of that vision behind the computer screen in accounts became an irresistible, close up and personal realisation of months of simmering desire. Now however, in the cold light of January, MagnX – a new range of magnetic backpainted toughened glass and dry wipe memo boards from Gx Glass – exerts an equally strong attraction. You can 'pin' documents to them and write on and wipe them – just as desirable but minus the averted gaze of morning-after embarrassment. gxglass.com

2 Tulipwood American Hardwood Export Council

AHEC is promoting tulipwood as an affordable, sustainable timber that's both attractive and functional. At London's Phoenix Brewery – a newly refurbished office building that once housed a brewery and Chrysalis Records of Spandau Ballet fame – the wood has been used to cloak an 'ugly' 1980s staircase in the reception area while helping absorb noise from hard surfaces. This much is true: the idea that being forced to count the battens will deter unruly drunks seeking the brewery probably isn't. '195, 196, 198... hic!, no, 196... hang on, I'll shtart again. 1, 2, 3... Oh, forget it!' americanhardwood.org

Timber ceiling systems Armstrong

You can get all the elements in place for the perfect space - shiny monochrome floor, latticework partitions, sparkling chandeliers - and then you hit the roof. Or rather the ceiling: it has to be wood finish for that natural, warm, luxurious ambience, but what to choose? Veneer, laminate, wood-effect metal? And then there's the fixing system. So many things to think about, so little time... Luckily, Armstrong Ceilings has produced a new guide to its portfolio of wood systems – to happily answer all your questions for the perfect topping off.

armstrong-ceilings.co.uk

4 Fire technology

No, these colourful nuggets aren't stacking cups from the local nursery; they've been given to students at Inverness College in Scotland. But before you throw your hands in the air and lament our falling educational standards it should be pointed out that they are in fact some of the fire detection products donated by ADT to help students on NVQ electrical and electronic engineering courses. The college is delighted, and now students will hopefully be finding that the fire technology module is, well, child's play.

adt.co.uk



Roofing

KALZIP Kalzip 'Foldables' recertified by BBA



Kalzip has retained BBA Certification for its 'foldable' and roll formed aluminium building materials Falzinc, Dark Falzinc and AluPlusZinc, With a life expectancy of at least 40 years, the lightweight, low maintenance and sustainable materials are malleable.strong and easy to install. Manufactured using a core of saline-resistant aluminium alloy electroplated on both sides with a thin layer of zinc and phosphate treated, the PEGAL process is patented by Kalzip. www.kalzip.com

KLOBER Permo underlay for low pitch extensions



Permo® extreme RSSK2 has been designed for monopitch roofs where existing windows or pipework preclude a tile or slate's minimum recommended pitch. It can be used at 10°, normally on fully supported roofs using counter battens and Klober Butylon tape. The underlay is light in weight, tear-resistant and, being heat-resistant, can be used within-roof solar panel systems. www.klober.co.uk

VM ZINC Ornaments provide shingles for Harrods' roof



Copper shingles manufactured by craftsmen from VMZINC Ornaments have been used in restoration work on the roof of the exclusive Harrods store in London's Knightsbridge. New moulds were created from existing shingles with all new profiles individually stamped. VMZINC has a 175 year heritage in handmade zinc and copper, with commissions ranging from finials to decorated gutter fronts and bulls eye dormers.

RADMAT Permaquick tops officonic new Library of Birmingham



Radmat Building Products has supplied the new £188m Library of Birmingham with a guaranteed roofing system. Two layers of Radmat PermaQuik PQ6100 Hot Melt Monolithic waterproofing membrane, root resistant Cap Sheet and ProTherminverted roof insulation were used to deliver high environmental performance and long term waterproofing $integrity, enabling \, the \, creation \, of \,$ two biodiverse green roofs and an $intensive \, rooft op \, garden. \\$ www.radmat.com

LUMEN ROOFLIGHT Introducing Lumen Rooflight 3D viewers



Lumen rooflight has created a series of 3D viewers to show offits range of contemporary, conservation, commercial, domestic, or bespoke products from every angle. Lumen's stunning rooflights are crafted here in the UK using the finest materials, so no matter which product you choose you can expect only the highest quality materials as standard, including the best Pilkington glass, UK manufactured winders, and solid American Ashliners. www.lumenrooflight.co.uk

FAKRO Bespoke flashings for luxury Highland log cabins



FAKRO has supplied 31 FTP-V centre pivot and FPP-V top hung and pivot roof windows with bespoke flashings to a luxury log cabin project at Eagle Brae in the Scottish Highlands. Architect Steven Caudry commented, "The windows were fitted into waterproofed timber boxes raised above green roof vegetation. Fakro's flexibility enabled us to achieve a far neater and more effective endresult."

SIKA Sika Liquid Plastics crowns historic Blackpool venue



A total of 400sq m of Decaflex 10 is keeping Blackpool's historic Winter Gardens venue safe from prevailing coastal winds and rain. The system's fast curing nature and its ability to rapidly become resistant to rain damage proved fundamental during the installation process in this exposed coastal location. the Decaflex 10 system was chosen for its elasticity and excellent thermal and UV stability and was specified to replace the failing asphalt roof.

www.sika.co.uk

KALZIP FC rainscreen panels ideal for new schools



Kalzip's low cost FC rainscreen system was specified in vertical formation by Glenn Howells Architects for two new schools in Birmingham - George Dixon Academy and George Dixon Primary. Cladding contractor $Stoneleigh\,Services\,installed$ the $1,300 m^2$ of quick-fit FC $rain screen \, panels, which \, come$ in a range of colours and finishes and can also be fixed horizontally. The lightweight panels are quick and easy to install on fixed modular click rails. www.kalzip.com

STORMKING Mixing old and new in Jersey



Stormking has used modern prefabrication methods with traditional materials for a housing development at Belvedere in St Saviours, Jersey. Complete roof dormer units were finished in real lead to blend with existing housing and withstand the harsh marine weather. Working closely with a local lead master craftsman, Stormking also added features to the mouldings, to incorporate venting, and built-in anchors to secure the finished panels while allowing for thermal movement after installation.

SIKA SARNAFIL Patriotic green roof for Irish community centre



Manchester's new Irish World Heritage Centre has a 1,000sq m Sika Sarnafil G410-15EL roofin a patriotic green Copper Patina membrane. The £5m community centre commemorates the achievements of Irish emigrants. Reflecting Ireland's copper mining past, the flexible copper imitation membrane also suited. the building's Celtic ring-shaped design. Installed by Pulwood Roofing Services, the roof has decor profiles at 900mm intervals and a segmental design. www.sarnafil.co.uk

JOHN BRASH Roof to wall solution for space-enabling monocoque design



SB-RED BS5534 roofing battens and SB Western Red Shingles helped deliver sustainable roof and walls on the Metropolitan Housing Trust's Sames Hayward Estate in London. The Sohn Brash roofing battens, the first factory graded roofing batten to guarantee compliance with BS5554: 2005, were used on the roof and walls. Shingles received fire retardant treatment to class 0, with roof shingles additionally tested to the AA rating.

SIKA SARNAFIL Newbury homes get resiliant and flexible roofing membrane



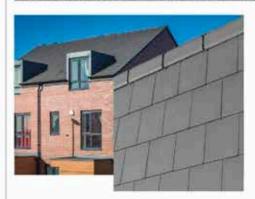
The excellent flexibility of the Sika Sarnafil single ply system coupled with its ability to withstand cold temperatures led to its specification for the balconies, roofs and terraces of a new residential development in Newbury, Reading, Specialist contractor Prater installed 500m³ of Sika Sarnafil membrane G410-12ELF in Lead Grey and G410-15EL Light on the balconies, roofs and terraces of all residential units at Parkway, a £100m urban quarter in the town centre. www.sarnafil.co.uk

SIKA SARNAFIL Flexible roofing fits intricate design



Sika Sarnafil's flexible single ply system lent itself to an intricate roof crowning Oxygen House in Exeter. For the 2,970m2 installation, Sika Sarnafil S327-12EL and Sika Sarnafil G410-12EL single ply membrane were used, with the roof build up comprising metal roof decking, insulation and single ply with composite panel walls. To highlight the geometric design, Sika Sarnafil Lead Grey batten roll features were inlaid with Light Grey Sika Sarnafil panels. www.samafil.co.uk

MARLEY ETERNIT Edgemere helps bring St Mary's back to life



Marley Eternit's Edgemere tiles have been specified on an awardwinning£15m social housing scheme that has transformed a derelict site on the edge of Oldham's town Centre, Architect Nicol Thomas chose Marley Eternit's Edgemere tiles for St Mary's housing scheme because they give a sleek slate like effect to complement the design of the homes, and their environmental credentials helped achieve extra credits under BREEAM and teh Code for Sustainable Homes. www.marlevetersit.co.uk

CEMBRIT New face for textured fibre cement slates



Cembrit has released an improved texture on its Westerland and Zeeland slates which sets them apart from other fibre cement slate brands. The product has the appearance of a natural slate, with the installation and performance benefits of a fibre cement slate. Cembrit fibre cement slates are guaranteed, and complemented by matching ridge, ventilation and fixings. This new look is an example of the incremental improvement which is a key part of Cembrit's innovation strategy.

KEYLITE Integrated thermal collar self-insulates the gaps



The new Keylite Future therm roof window comes with a number of special new features, all designed with a 100% focus on innovation. The key innovation comes in the form of a unique integrated thermal collar, designed to effectively self-insulate the gap between the window frame and the roof. This is achieved by simply pulling back a tab to release the expanding thermal collar foam, thereby eliminating the need for secondary insulation.

www.lieyliteroofwindows.com.

Doors, Windows & Ironmongery

EUROCELL First fully integrated window system comes in three sash designs



Eurocell has launched Modus, the UK's first fully integrated door and window system, available with three stunning sash design options. The standard rebate, slim rebate and fully flush sash styles offer a much wider range of design aesthetics than traditional PVC-U systems. In combination with slimmer sight lines, the aesthetics of Modus gives specifiers a genuine alternative $to a luminium \, and \, timber$ products - while offering clients much better value for money. www.eurocell.co.uk

COMAR Rigorously tested systems improve performance



Comar Architectural Aluminium Systems offers high performance window systems in two types, standard and heavy duty 9P.i and 5P.i ECO. Comar 9P.i has a top projected casement window system with slim 84mm profiles that offers maximum heights of 2500mm, and heightened weather and security performance. Comar 5P.i ECO has a Green Guide rating of 'A+', providing BREEAM points, and 'A' Grade Window Energy Ratings (WER) with a standard double glazed unit. www.comar-alu.co.uk

CRITTAL Replica windows help in restoration of listed Pegasus House



The grade II listed Pegasus House in Bristol has had a £70m makeover and Crittall Windows has been instrumental in the transformation. Built in 1936 to Austin Hall's design, it is being refurbished as part of the rebuilding of the entire original Bristol Aeroplane Company site of which it is part. Crittall Windows replaced all its 430 originals with replica modern high performance steel units in keeping with stringent planning approvals. www.crittall-windows.co.uk

NJG STEELIGHTS 19th century glazing updated to fulfill modern expectations



NJG Steelights offers a designadaptable, stainless steel and glass, 30 minute fire rated glazing system, designed to a 19th century glazing principle but built using modern materials. This creates an extremely strong, engineered 21st Century 'retro' decorative product with a hidden jointing method. The doors come in a range of sizes within a single unit to give maximum design potential, where they can be mixed and matched with different glass types and textures.

www.steelights.co.uk

SCHUECO New fire resistant sliding door looks good and resists fire and heat



Schueco Jansen's new Janisol 2 fire-resistant sliding door combines an elegant appearance with a high level of protection against flame and heat. Constructed from tried-and-tested Janisol profiles and engineered to allow an inward or outward direction of escape, this versatile door comes in either a single-leaf or double-leaf configuration and can be supplied with or without side and top lights or an emergency exit function.

www.schueco.com

TORMAX Tormax gives Rugby School 6th formers access to refurbished centre



The newly refurbished Collingwood Centre at Rugby School benefits from a set of twoleaf automatic sliding entrance doors, designed and installed by Dotcom Glazing and powered by the technologically advanced TormaxiMotion 2301 operator. Designed for minimum maintenance, iMotion operators check the sensors every cycle and automatically adapt door operation to take account of external factors such as high winds or a build-up of dirt. www.tormax.co.uk

GEZE Doors just the tonic for London School of Hygiene & Tropical Medicine



When the London School of Hygiene and Tropical Medicine, a grade II listed art decobuilding with a solid marble floor, needed $new\,entrance\,doors\,it\,turned$ to GEZE. The firm created a $design\,using\,the\,Slimdrive\,SC$ GGS, an automated all-glass $curved\,sliding\,door\,with\,high$ grade stainless steel fittings and aglass roof. It was fitted to the existing entrance to create an elegant semi-circular lobby and $the\, curved\, sliding\, glass\, doors$ ensured more space and light. www.geze.co.uk

DR SERVICES Total vision with 60/60 fire protection



Harlow based architectural glazing specialist DR Services' is the UK's sole provider of the fully certificated MetFlam system, which complies with BS476 Part 22 and BS-EN 1634: 1999. Its flagship DR-yc Fire can deliver up to 60 minutes integrity, and is recognised as the ultimate in fire glazing technology. The company offers a full design, specification, fabrication and installation service for the high performance doors and screens in publicly accessible buildings. www.drservices.co.uk

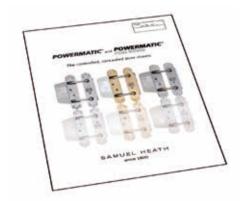
Surface Design Show

DORMA Textbook entrance for BREEAM Excellent University building



The University of Bedfordshire's new £20m, BREEAM Excellent, Postgraduate and CPD Centre used Dorma's KTV Glass revolving doors to provide the perfect combination of functionality, performance and energy efficiency for the stunning new main entrance. The revolving door limits warm air loss and cold air intake while Dorma's ED100 low energy swing door operator was also incorporated for the emergency exit and pass door. www.dorma.com

SAMUEL HEATH New brochure helps specification of concealed door closers



Samuel Heath has a new brochure to address the selection and specification of controlled. $concealed \, door \, closers. It$ features the popular Powermatic controlled, concealed door closer as well as Powermatic Free Swing, the latest addition to the company's door closer range. Technical illustrations, computer generated imagery and photography illustrate the legislation and performance $standards\,that\,apply\,to\,controlled$ and free swing door closers. www.samuel-heath.com

REYNAERS Innovation and energy efficiency for regeneration project



Revnaers' aluminium windows are bringing aestheticallypleasing designs, innovative structures, strength and optimised energy efficiency to two new residential housing blocks in King's Cross Central. part of an affordable housing scheme in central London. The selected CS 38-SL and ES 50 systems were chosen for their strength, insulation qualities and narrow structural elements, and admit maximum levels of natural light to the interiors. www.reynaers.co.uk

SAMUEL HEATH Door closer will work manually until the fire alarm sounds



Powermatic Free Swing is the latest controlled, concealed door closer from Samuel Heath. Connected to the building's 24-volt fire alarm system, it can function in the same way as the company's Powermatic closer or can allow a door to be operated manually and left open. If the fire alarm is activated, or there is a power failure, the inactive closer becomes active and closes the door automatically. The new closer complies with BS EN 1154 and BS EN 1155.

www.samuel-heath.com

FILA New solvent-free treatments join the Green Line



Fila is showing new solvent-free surface treatments at the Surface Design Show, including LEEDapproved Fila MP90 Eco Plus - a high performance sealant for internal and external polished and unpolished natural stone - and Fila PW10, a solvent-free contaminate-blocker designed for professional treatment of absorbent materials. Both join Fila's Green Line - water-based, biodegradable products with a very low VOC content. Stand 325 www.filasolutions.com

KNAUF AMF Creating an impact with cutting edge wall and ceiling panels



Knauf AMF Ceilings is exhibiting its innovative Heradesign ceiling and wall panels at the Surface Design Show. Heradesign, sustainable, distinctive woodwool based ceiling tiles and wall panels, are cost-effective and easy to install. They have a natural textured finish and provide up to class A sound absorption, and are available in various sizes, face patterns, edge details and an almost unlimited range of colours. Stand 304 www.amfceilings.co.uk

A PROCTOR Painted and natural cladding at the Surface Design Show



A Proctor Group is exhibiting both its painted and natural timber cladding ranges at the Surface Design Show this month. Silverwood is a factory-finished painted timber cladding for a modern aesthetic look that comes in a range of colours, appearances and profiles. Canjaere Classic is a rough sawn cladding for a more natural finish with superior weathering properties, available in natural colours and various different profiles. Stand 256

www.proctorgroup.com

NORA Rubber floor covering in 38 brilliant colours



Noraplan sentica is an innovative rubber floor covering that comes in 38 brilliant colours. Discreet granulate design gives the covering an almost uni-coloured appearance over the laid area as a whole, while visually hiding dirt. It shows that optimum functionality and elegant design are not contradictory, allowing noraplan sentica to contribute to a positive indoor climate. A lowemission rubber floor covering, it offers sustained reliability for building developers and users.

General

KERAKOLL Invisible grout and adhesive adopts surrounding colours



Fugalite Eco Invisible, the new grout and adhesive from Kerakoll, is an opalescent semitransparent substance which reflects diffused light – making it look the same colour as the tiles around it and rendering the joint practically invisible. It is ideal for use with butt jointed wood and marble effect ceramic tiles as well as glass mosaics – for which it can be used as an adhesive as well as grouting.

www.kerakoll.co.uk

SHACKERLEY New Sureclad ceramic granite cladding brochure



Shackerley's new Sureclad brochure reveals an impressive gallery of ceramic granite ventilated facade projects to inspire the specifier. Large format engineered stone is also featured in the new 124page catalogue which clearly demonstrates the versatility and $aesthetic\,appeal\,of\,the\,Sureclad$ system across all market sectors. This edition also includes projects carried out with Benchmark as part of a rapidly expanding strategic partnership. www.shackerley.com

FLOWCRETE Award winning floor for Bristol hospital's Brunel building



High performance flooring from Flowcrete UK - installed at the new state-of-the-art Brunel building at Southmead Hospital in Bristol - has secured the Resin Flooring Association's Large Project of the Year Award. The building required a hard-wearing flooring system combining style and safety with sustainability. The hygienic Peran STB system, with high scratch, impact and abrasion resistance, is a durable, decorative topping, easy to clean, and provides a seamless finish. www.flowcrete.co.uk

JIFON Hybrid heat pump sources from air and the ground



Swedish heat pump manufacturer Tifon has launched Air Go, a heat pump that takes energy from both soil and air. The hybrid solution, with a copper coil in the ground (1m deep with a loop length of 15-30m) combined with a fanless air collector, has only one moving part - the compressor. This makes its heat production highly economical and reliable while also being easy to install. AirGo is available in three sizes. with 11kW, 15kW and 20kW. www.jifon.se

WEBER Insulation in 'green' makeover helps tenants save on energy costs



External wall insulation by Saint-Gobain Weber has been specified for the thermal upgrade of over 1,400 homes in Willenhall, Coventry. The firm's weber.therm XPEWI and onecoat render system was specified for its high thermal performance, speed and ease of application. These 1950-60s buildings are of solid wall No Fines construction and the finished job, in a range of pastal colours, has left residents delighted with their warmer. more attractive homes. www.weber.ie

THERMASET Investment on the cards as production doubles



Thermaset, one of the UK's best known companies for the formulation and manufacture of powder coatings – which are used extensively on building components – has doubled its production capacity and plans to invest £750,000, in plant and production machinery next year. The family-owned company from Tamworth in Staffordshire will be 30 years old in 2014 and is enjoying success despite difficult market conditions.

IDEAL COMMERCIAL Boilers save space and energy for the New Forest



Leading British manufacturer Ideal Commercial Boilers has supplied five Evomax 80kW high efficiency condensing wall hung boilers to New Forest District Council, for installation at Totton Health and Leisure Centre, Southampton, The boilers have solved a challenging array of installation requirements, as well as helping cut running costs by 15%. The 80kW boilers were specified because they are reliable and easy to maintain, and save space and energy. idealcommercialheating.com

KINGSPAN WATER Stormwater attenuation is timely addition to services



Kingspan Water is expanding into stormwater attenuation. $Its \, latest \, product \, innovations \,$ are attenuation tanks and flow control chambers that catch excess water and ensure run-off limits are met. These are particularly easy to install. service and maintain. Other products in the range include Kingspan Water's industryleading rainwater harvesting systems and Klargester sewage treatment solutions for hygienic and safe wastewater disposal. www.kingspanwater.com

Interiors

KOLARZ Mystery chandelier steals the limelight



Austrian luxury lighting company Kolarz has introduced the Mystery contemporary chandelier. This dramatic and exciting piece, with its sweep of delicate Kolarz Pure crystals, is a statement piece which can be made to any size and drop, with either chrome or 24ct gold plated finish. It will be the centrepiece to any room, from formal dining to modern kitchen, as shown here. www.kolarz-uk.com

GEZE New glass fittings product guide



GEZE UK has released a new illustrated product guide and price list for its range of glass fittings. Solutions for Toughened Glass provides detailed descriptions of GEZE's fittings for toughened glass doors and includes full glass preparation and technical performance $information. The \, range \, is \, suitable \,$ for single and double action, pinch free, internal and external doors. The brochure includes details of the rails and fittings available and the range of finishes. www.geze.co.uk

ATRIUM Moonline ambient lighting fits into any space



Moonline, a high luminous performance luminaire for ambientlighting, is made $of extruded \, aluminum \, and \,$ integrates perfectly into the surroundingarchitectural space. It can be ceiling and wall mounted and is available in two finishes, white or with primer, ready to receive any special paint. Moonline uses latest generation $LEDs\,that\,are\,easily\,mounted\,on$ the metal profile with a magnetic fixture and its adjustable opening makes it minimally visible. www.atrium.ltd.uk

LYNDON DESIGN Orten seating collection extended with Mark Gabbertas



 $Lyndon\,Design\,has\,joined\,forces$ again with award-winning furniture designer Mark ${\tt Gabbertas\,to\,launch\,additions\,to}$ the brand's flagship Orten seating collection.The new modular twoseater and three-seater corner sofa units are designed to bring greater flexibility to hospitality and corporate interiors where breakout spaces are increasingly in vogue. The units come as either 'H' frame or leg frame and are $available\,with\,left\,or\,right\,hand$ single sofa arms. www.lyndon.co.uk

MORGAN Furniture to charm for luxury retailer ROX



Morgan, the British designer and manufacturer of original contract furniture, has supplied its Hampton and Seville collections to British luxury retailer ROX. Daring product design and red carpet service are the hallmarks of ROX, whose opulent and inviting interiors are made relaxing by Morgan's generous seating – which is upholstered with tactile fabrics in muted metallic shades. www.morganfurniture.co.มk

FORBO Challenging the senses with contrasting floors



Forbo flooring has been specified for a futuristic interior, designed to challenge and stimulate the senses, at the new European HQ of EON Reality, an interactive 3D software provider. The $10,000 \mathrm{ft}^2 \, \mathrm{space} \, \mathrm{has} \, \mathrm{a} \, \mathrm{showroom}$ for the firm's cutting-edge virtual reality 3D technologies, and a coding school that trains students to become 3D content and coding specialists. Sharp contrasts of light and dark were used for the themes of discovery and fun in the space. www.forbo-flooring.co.uk

HECKMONDWIKE Outstanding result for Supacord at new academy



The Ofsted 'Outstanding' Ormiston Venture Academy in Norfolk has chosen Supacord carpet with inlaid bespoke logo mats from Heckmondwike FB to create a distinctive new identity and to help achieve its ambition to become a 'World Class' learning establishment. Over 2,600 m² of Supacord fibre bonded carpet, which will not unravel or fray, and three bespoke logo mats were installed as part of an £8m refurbishment and new build extension.

www.heckmondwike-fb.co.uk

JOHNSTONE'S Sustainable finish for BREEAM record-holder Co-Op HQ



Johnstone's Ecological Solutions range has helped the new head office of The Co-operative Group in Manchester become one of the most environmentally-friendly building in the world. Over 10.000 litres of Johnstone's Covaplus Vinvl Mattemulsion was used throughout the building - which achieved the highest-ever BREEAM score of 95.16% - to provide a durable, wipeable finish resistant to fading and yellowing. Johnstone's Acrylic Satin, which also specified. www.johnstonestrade.com

Sign Up

José Esteves De Matos, director of De Matos Ryan Architects, gives us three of his specification favourites



LED RIBBON LIGHTING

We often find that the best lighting is where one is not immediately aware of its source. At Christophers Bar & Restaurant in London's Covent Garden, the ornate and exceptional character of the existing building was celebrated by indirect Orlight LED ribbon lighting. In restoring the cornice, we picked out its relief with modern silver gilding and then added a warm glow commensurate with the original gilding that was concealed within its profile. The tape allows for a discrete but theatrical enhancement.

orlight.com



DINESEN FLOORING

In appropriating a shed typology for a new spa at Orchard Spa at Coln Lakes in the Cotswolds, our intention was to avoid over-'domestic' scaled finishes. The generous width and natural quality of the Dinesen Douglas Fir floor boards correlated well with the Basalt tiles to create a seamless transition of banded tramlines between wet and dry areas, which was more appropriate to the industrial sized portal frame.

dinesen.com



RIMEX STAINLESS STEEL

As part of the refurbishment of Sadler's Wells Theatre in north London, we are using durable Rimex stainless steel dimpled (6WL) profiled sheet metal panels to re-line the foyer bars and counters to enhance the visitor experience. The raw, tactile and reflective quality of this material in combination with a new lighting strategy is being used to provide increased drama and contrast in the key public spaces.

rimexmetals.com

...Sign Off

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



HALF A SIXPENCE...

Ah, London's legendary black cab — of which the billionaire Sultan of Brunei owns more than a dozen. Asked why, he said, 'Because they turn around on a sixpence — whatever that is.' And so the new meeting room suite in the Mayfair offices of computing firm EMEA neatly links to the 1967 film 'Half a Sixpence', about a pauper who inherits a fortune and loses the lot — finally realising money can't buy happiness. It does, however, seem to buy the back end of a black cab. With EMEA wanting 'something iconic' in its break out spaces, designer Area Sq thought this was just the thing to meter and greet. Did I tell you I had that Tommy Steele in the back o' me cab once...?



GLASS HALF EMPTY

With lower income families priced out of university education by the Coalition's tuition fees, PM David Cameron's keen to ensure that the children of the few that still make anything are not, post-GCSEs, left loitering in their hoodies on the nearest street corner. Thus his visit to Carillion's HQ in Wolverhampton, to convince teens that apprenticeships is the way forward. While most seem open to the idea, Tommy here still looks unconvinced. Lauding Carillion on its new £0.5m training initiative, Cameron told businesses to get into school and 'tell them what they do,' although perhaps Tommy, mulling the degree he'll never afford, would rather 'tell him where to go'.



FREE-TO-ONE?

Given the Square Mile's willingness to sell anything that isn't nailed down, opening the Lord Mayor's Show to corporate marketing should come as no surprise. Lords and ladies, please welcome Ted Rogers' Dusty Bin look-alike, the Knauf insulation mascot! But this one's smart. Only last month he was on Radio 4's 'Today' telling us that George Osborne's cuts to the carbon reduction component of the ECO, saving us all €50 a year on bills, is a false economy. But the less the energy companies need to shell out to upgrade our housing stock, the less they need charge the customer − right? Meanwhile energy efficient UK housing gets ever more distant... '3-2-1'-give the man a booby prize!

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