



Products in Practice Mar/Apr 2017

Extreme specPalace of
Congress, Rome

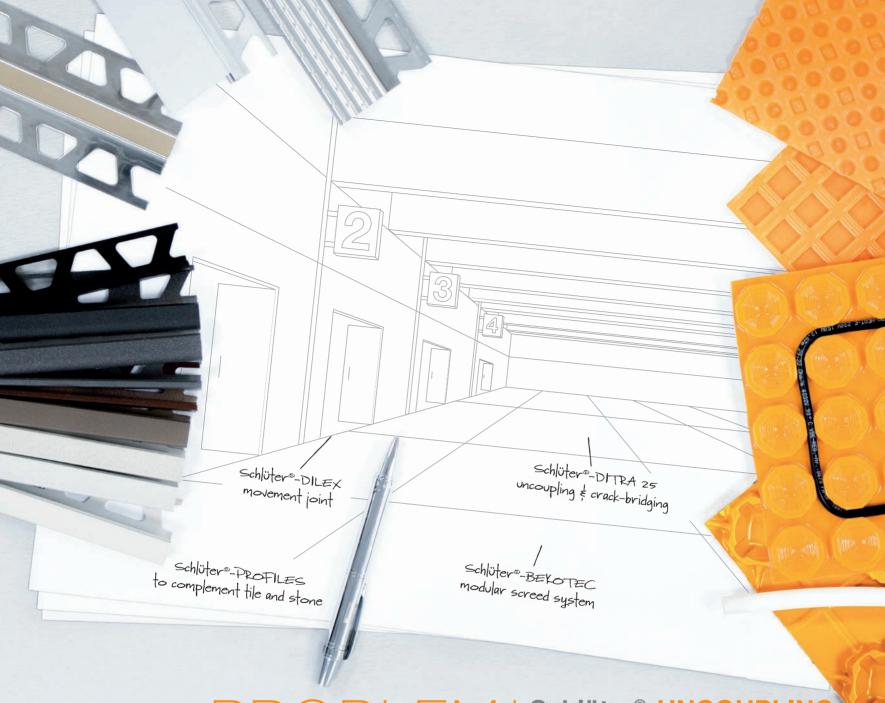
CladdingThe Welding Institute,
Cambridge

Special report
Where works for the workplace?

Insulation
Suergen Teller
Studio, London
22

Interiors Café Victor Bozar, Brussels





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03

Launched to.

...a sigh of collective apathy last month, the government's housing White Paper wasted no time declaring England's housing market 'broken', but offered no definitive, ground-breaking solutions as to how it might be fixed. After nearly 40 years of selling off council housing stock, promoting home ownership and market speculation on property – thus driving house prices up – we have reached an impasse where young people simply cannot afford to raise the kind of deposit they need to buy a home - short of going to the 'bank of mum and dad' (assuming they're lucky enough to have one) to facilitate it.

Yes, the problem is partially about supply; but that's a symptom, not the diagnosis. Once again we must return to the key issue of housing, which is; in an unfettered market dictated by the laws of supply and demand, what possible incentive is there for volume housebuilders to ever meet housing need? Releasing more land for development is not the answer the disparity between permissions gained and homes built, as the paper states, already points to the high levels of land banking going on.

And as for its purported support for the growing swathes of long-term renters, might we reiterate something more radical than tinkering at the edges of legal protection? Like reintroducing a state housing programme with loans at low rates of interest, to fund building using innovative methods and more Local Plan aligned proposals; ultimately offering long-term, secure tenure for those that need it. Tumbleweed? Even that makes a noise when there's enough of it. •

Jan-Carlos Kucharek, Editor



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In a good light

Samuel Cooper, the 17th century artist who painted the infamous portrait of Oliver Cromwell, is generally acknowledged as the greatest painter of the wart in the history of art. One art historian claimed that seen in the right light and close up 'it's all white and flaky – absolutely repulsive.' That academic might be one of the few not to appreciate

German light manufacturer Betec Licht's Angulus picture lights – recently awarded the 66th annual GOOD DESIGN award from the Chicago Athenaeum in the US. With the minimalist luminaire fully adjustable, available in brass, bronze or chrome, and with different arm configurations, its revealingly level spread of light is as likely to show your bad side as your good.



Show your mettle

Entries are being invited for the 2017 European Copper in Architecture Awards 18, which aims to gather together the most exemplary and innovative uses of the material exhibited in some of Europe's best buildings. Past winners include Pitágoras Aquitectos for its Platform of Arts and Creativity in Guimarães, Portugal, which used a beautiful copper facade screen on its elevation. The final deadline for receipt of entries is 30 April, which is probably around the same time as Article 50 gets invoked. God knows what effect that will have, so be sure to get your entries in nice and early!

UPCOMING

Ecobuild 07-09 March, ExCel London **MIPIM** 14-17 March, Palais des Festivals, Cannes, France

International Passive House Conference, 28-29 April, Vienna, Austria EcoShowcase Various UK venues March-April

Losing your marbles

For the interior refurbishment of the Milan Hilton, interior specialist the Hickson Design Partnership turned to Piero Portoluppi's luxurious Villa Necchi Campiglio nearby for inspiration. The building is a gorgeous paean to the rich early modernism characterising the inter-war period. The firm looked to pick up on the sense of indulgence with its use of Neolith's Calacatta Gold marble-like surface, offering a deluxe look and feel that's cheaper, more sustainable and easier to maintain. Anyway, you should never meet your heroes.



Out in the mid-day sun

It's a case of Mad Dogs and Englishmen again with Grimshaw's proposal to bring some shade to the UAE with its Expo 2020 pavilion, launched at Abu Dhabi Sustainability Week. The Sustainability Pavilion, developed with Buro Happold, Eden Project's Tim Smit and Dennis Bushnell from NASA Langley, will be 8,000m² of exhibition space, auditorium, courtyard and reservoir with an over-arching PV impregnated roof structure. It's planned to be a permanent Exploratorium after the Expo.





Sibling tiling

Tile of Spain is keeping it in the family, awarding its €17,000 annual prize to Spanish architect Paredes Pedrosa Arquitectos for its 'Two Homes in Oropesa', Toledo. The two small, ruined houses, embedded in a historical structure of shared courtyards and brick arches, were built for two siblings of a local noble family and connected the castle to the village church. The siblings might be long dead, but they'd be pleased to know that they've been reunited – the ceramic tiles used not merely as a finish, but as a way of providing a homogenous envelope to the refurbished project.

Next to Godliness?

PIP loves a good knurl so was very struck by Rubinetterie Treemme's 22MM sanitaryware collection, whose driving design concept was that every component, whether pipe, spout or tap, be the same 22mm diameter. Add to that the beautiful engineering knurl on both controls to improve the grip and you've got the winner of the German Design Council's 'Best of Best ICONIC Interior Innovation Award' at the recent IMM Cologne Fair. The brainchild of Italian design firm OCA Studio/ Castagnoli, a little research reveals that OCA Studio have been driven by 'Etruscan walls and the monastic structures of Umbrian cities such as Assisi, Todi, Perugia and Spoleto'. That's as may be, but at over £400 for a faucet, we're wondering what St Francis, committed to a life of poverty and abstinence, would make of its luxuriously engineered decadence.



Lean thinking

Ashton Sixth Form College, formerly Ashton Grammar School, in Ashton-under-Lyne in Lancashire seems to be trying to put the past behind it and look to the future – despite the government's drive to see grammars re-introduced. The last 34 years has seen the establishment's cohort of students rise to over 2000, which makes for some busy mornings in its reception area. Manchester architect GA Studios looked to bring a new angle to registration with its dramatic, leaning reception block and Hadid-like centrepiece reception desk, that slides from 1200mm to 700mm to consider the less able-bodied among all those able brains.

Turn ups are in

I'm reminded of those dizzying, almost unwatchable Transformers movies as I stare at interior designer Virgile and Partners' makeover for a retail area in the Birmingham branch of high-end fashion store Harvey Nichols at architect Stanton Williams' Mailbox. Thankfully, this wall is far easier on the eye, seemingly frozen mid-metamorphosis, creating a 3D wave pattern effect that was striking enough to win it the 'Best Innovative use of Brick and Clay' at the 2016 Brick Awards. Vertically coursed 18mm Staffordshire Blue brick slips and pistol slips were supplied by West Midlands firm Ketley Brick and combined to create the alluring sculpture. But unlike Optimus Prime, they're not being challenged to the max here; the Class A engineering bricks have low rates of water absorption, high strength and good frost resistance and are normally used in more demanding external environments.





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IT/Books 07

Room to move



Melbourne is about to undergo one of its biggest planning changes in a decade. Aside from long awaited government investment in rail and public transport, ineffective planning regulations for housing construction is being overhauled. This is important to get right if we are to reduce urban sprawl and convince Australians that apartment living is the future.

There is a generational shift towards apartments in favour of their convenience and low maintenance. However, many turn away from the expensive shoe boxes constantly dumped on the market, rejecting the amenity to cost ratio that investors willingly consume.

Close to where I live, a substantial development has been approved on the back of an old planning scheme. It is a seven storey snaking housing complex looking onto central courtyards and our predominantly two storey neighbourhood. Three floors of flats are underground, limiting views, airflow and natural light.

The local council had very little provision in the planning scheme to guide the design

and analysis work in the planning proposal. A building with poor amenity still manages to tick all the environmental and planning boxes.

Although the construction industry has the tools to analyse and craft beautiful spaces, financial return trumps quality, which must be driven by planning policy and consumer demand.

New planning policies for Victoria have been developed through consultation with a diverse group from the building industry and by studying local and overseas projects with exemplary amenity. The policy defines minimum sizes for rooms, bedrooms must be 3m by 3m, plus minimum built in storage. Living rooms are minimum 12m² inside a maximum 9m deep apartment with 2.7m ceilings. This is a huge step forward in reshaping apartment amenity. Apartments must have an unimpeded outlook, obscuring screens are no longer accepted as a patch fix for overlooking. Outdoor balcony space is guaranteed and sized to fit a table and chairs and the prized barbeque. Half of all apartments are required to be mobility accessible; a

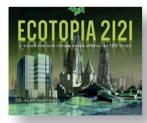
well overdue stipulation. Cross ventilation, corridors with natural light, communal outdoor space with guaranteed sun, deep bed landscaping, and 100% rain water capture form part of the revised residential planning guidelines. To summarise, it's almost architectural utopia.

Schematic design will need to focus a lot more on CAD-based space planning and schedules for each apartment rather than the current light touch approach. This brings more detail earlier into the design process, which is more onerous for our clients but leads to well considered outcomes. Environmental analysis included in the planning submission will not change, although the results will score more highly. We wait to see how the changes will effect site yield. My guess is an initial price hike per square meter, consumers will experience and expect new level of amenity, a new norm will be created and prices will eventually drop through competition. Well, let's hope anyway. •

Alan Maclean is an architect at Bates Smart Architects in Melbourne

Books

Buy at ribabookshops.com



Ecotopia 2021: A Vision for our future Green Utopia in 100 Cities

Alan Marshall. Arcade Publishing, HB, 304p, £19.30
It probably takes a professor tenured at a university in tropical Thailand to come up with a dreamy concept like this; a fictional account of what 2021 will be like in 100 global cities. While on the surface it's all looking pretty rosy, the vison's more dystopian than utopian. There are some interesting observations: New Orenburg, a new oil city, appears where the Antarctic ice sheet used to be and floats natural gas around the globe in big balloons. Mumbai has a tech city and mega slum. Central London becomes a children's playground/God's Waiting Room and Toronto just does it all right. It's a curious thing this, with some of the most bizarre illustrations I've seen in an architectural book in a long time; and while you could dismiss the lot as fantasy, still you turn the pages.



The Party Wall Act Explained, 3rd edition

The Pyramus and Thisbe Club. PB, 157p, £35

The Pyramus and Thisbe Club, an organisation for professionals with interests in the Party Wall Act, takes its name from the two characters in Ovid's Metamorphoses who can only speak to each other through a hole in a wall due to a dispute between their families. And, as part of the increasing NIMBYism prevalent in our society, this updated 3rd edition should come as a welcome succour to those dealing with the neighbour who's digging down to build that home spa in the basement or adding a penthouse apartment on the roof. A lot's happened since the last revision 10 years ago, with some major case law decisions made in the intervening years. As a go-to text in court proceedings, it's essential reading for those who wish to acquaint themselves better in the dark arts of the notional Party Wall line.



Engaged Urbanism: Cities and Methodologies

Ben Campkin & Ger Duijzings eds. IB Tauris, PB, 290p, £25 It's interesting that Guardian critic Olly Wainwright recently drew attention to the fact that there are dating app-like technologies, still in their infancy, aiming to engage the public directly with planning procedures and issues. With that in mind, the strategies described in this book might seem somewhat anachronistic and self-indulgent; but then again artists and writers have as much to say on the subject of urbanism as Joe Public or a qualified consultant. So expect here accounts of urban activism from around the world; from straight design to undercover journalism, film, sculpture, writing, performance and photography. These individual acts might not have the global reach of social media but then armchair clickbait will probably never topple a government. That requires intention – and legwork.

Right Over 24,000m² of perforated Atex 2000 TRL WS14 silicon membrane was used to form the cloud.

Below Creating the €353 million Palace of Congress required over 39,000 tonnes of steel.



EUR Palace of Congress

What: Tensile membrane structure
Where: FLIR Rome

It's not that a conference centre receives extensive coverage in the architectural press. Most are glorified sheds filled with halls and theatres, resulting in a bland, emotionless airport-like feel. But in Rome, using stressed fabric, Studio Fuksas has taken a different route.

At the $\ensuremath{\in} 353$ million EUR convention centre, reportedly the largest building completed in the Italian capital in the past 50 years, Fuksas has turned its back on bland and created a fascinating combination of spaces. While externally it is rational – a smart glazed box – internally it is almost filled with an amorphous cloud-like form.

This 129m long, 65m wide, 29m high white cloud is the heart of the building. Inside is the centre's main auditorium with approximately 1,800 seats, various large conference rooms with around 6,500 seats, foyer areas and a café.

Envisaged by the architect as floating freely, its sinuous form contrasts directly with the geometrically defined shape of the exterior shell. However, to achieve this complex cloud, which was key to the architect's vision, would push the capabilities of stressed fabric to its limits.

Supported laterally by the building's external frame, the cloud is a steel rib structure covered by a 14,400m² transparent curtain.

The shape of the steel frame was developed



DENO MAGGI

by virtually cutting the cloud form in all three axes at firmly defined distances into slices. These shapes were then manufactured in steel – creating a grid that the membrane had to be custom patterned to fit.

As the cloud's primary steel structure was established first, the key engineering challenge was to design a stressed fabric form that followed the steel works' multiple curvatures and complex shape as closely as possible.

To do this, the architect turned to formTL, a German engineer that specialises in membrane facades and structures.

As the cloud is indoors and not exposed to the elements it doesn't have to meet more onerous performance requirements. This allowed the engineer to chose a semi-transparent white membrane material that would give the acoustic and visual requirements the architect desired. The material itself is constructed from glass fibre coated silicone Atex textile (Atex 2000 TRL WS14), manufactured by Valmiera Glass UK. To achieve the flexibility required to create the form and give the desired level of transparency this material was punched with millions of micro holes.

As Christian Würfl, senior engineer at formTL, explains: 'It's the most complex form we have ever undertaken; the combination of the extreme curves and their closeness makes this an extremely difficult shape to realise.'

Tom Ravenscroft



Above 55,000m² of glass was used to cover the Congress building —equivalent in area to nearly eight football pitches.

FABRICATION

Through what formTL's Christian Würfl describes as a semimanual form-finding process using 3D modelling, curvatures and stress ratios were determined along with a cutting pattern that maintained tension and distortion. A 1-1 mock up of the most complex section — the mouth of the tube — was also made.

The membrane covering the steel framework uses 2,763 cutting patterns assembled into 607 individual panels. To maintain the levels of tension required of the membranes for each curvature a specific bracket system was developed. Each bracket is mounted on the steel ribs and is height-adjustable so they can be finely tuned to ensure the ribs do not collide with the skin and the membrane appears taught. The glass fabric is attached and tensioned using clamping lines that sit on the brackets.



The Welding Institute, Cambridge

There's nothing particularly unusual about a hi-tech business park on a country estate – the Second World War often saw isolated country estates like Bletchley Park, Bushey and Ditton Park requisitioned for scientific and military intelligence purposes, and new technologies linked to the country campus were culturally established in the UK decades before Silicon Valley adopted the idea. But it is unusual, eccentric even, to find one developed around a cricket pitch and pavilion, as happens here at The Welding Institute, at the 18th century Abington Hall Estate outside Cambridge. Humphrey Repton's picturesque winding drive to the hall may have been lost in its subsequent piecemeal post-war development, but Eric Parry Architects' new masterplan for Granta Park, over 70,000m² of tech and biotech industry space, adopts a modern take on those picturesque principles.

But it all comes back to that focus of the cricket pitch; not originally part of the estate, but the brainchild of Bevan Braithwaite, a larger than life engineer, who by the time he became chief executive of the Institute in 1988, was a world authority on structural fatigue. Parry recounts how, normalised as a government quango in 1946, the British Research Welding Institute was established to look into the failure of the Liberty ships, more of which were being lost to welding issues than to enemy fire, and to support aeronautical development as part of the war effort. Its specialisations multiplied; today TWI is a world centre in welding technology, its 500 staff as likely to be providing high level research into skin bonding as waste encasement capsules for the nuclear industry or fabrication techniques for NASA rocket builders.

But long divested of government funding,

and generating its modern incarnation, TWI had to look into alternative means of raising revenue from the site through visionary developer Ian Laing, who initiated the Granta Park masterplan. Parry was brought on board in 1996 and proposed 'green fingers' radiating from the cricket oval and balancing pond to wooded parking and ancillary areas beyond, maintaining a picturesque feel at the site's heart. Plots built out to varying levels of success, by a menagerie of architects and contractors, are now let to biotech industries as a revenue stream for TWI. But in 2012, with hefty HEFCE funding, Laing brought Parry back to consolidate the estate in its most significant iteration yet - nearly 28,000m2 in three new buildings all connected via a wide internal spine back to its 2003, Bovis constructed, Bevan Braithwaite Building.

Varying programmatic requirements of



Eric Parry Architects' ceramic baguettes have given The Welding Institute three huge new buildings that look to future flexibility while blending in with their countryside setting

Words: Jan-Carlos Kucharek, Photographs: Dirk Lindner

TWI's phase II may have allowed Parry to indulge himself with the kind of balanced asymmetry that would have pleased Repton himself. The new £50 million complex extends southwards into the central site as three distinct structures. The westernmost block is dedicated to TWI's library, conference areas, admin offices and refectory spaces, the central houses laboratory research facilities, and the largest, easternmost block is TWI's 'engine room', its sizeable and heavy duty testing facility. Two of the blocks are skewed in plan relative to each other, the testing facility only prevented from doing so by logistical demands of the service yard

to the rear; yet despite the scale of the geometric shift, it is probably the buildings' more subtle picturesque play. Most obvious is the firm's choice of a beguiling five-colour modulating facade of vertically hung ceramic baguettes that visually unifies the three blocks into a whole.

With the budget tight, Parry admits the biggest challenge was getting the approach right to cladding an 'enormous building' in Abington Hall's meadows — especially on a constrained design and build budget. Panellised aluminium systems were considered, says project architect Lee Higson, but quickly dismissed for German firm NBK's rectangular hollow section

terracotta baguettes. 'We knew there was a world of metal profiles out there but we have always been concerned with materiality and weathering. We were really keen that the cladding convey a sense of hand working and craft.'

'It struck me that using them would allow us to create a form of camouflage,' recalls Parry. 'The varying colours could create an ambiguity of depth, going from something dense and grounded at the bottom to something lighter and more aerial at the top – getting lighter and thinning out, like staring into a birch forest.' The ensuing colour palette, decided on for its 150mm lengths, was developed with an artist in











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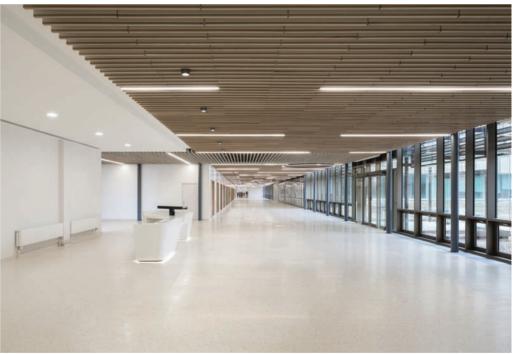




shades of brown, blue and grey – the colour runs through the section so it can take the knocks of time. But Higson admits it was at times a struggle arguing for a subtle facade approach such as this, with a science organisation understandably more concerned with ensuring its brief was met within the budget than aesthetics.

Perhaps what tipped the balance in Parry's favour was Laing's long term view for the organisation, which currently relies heavily on the oil industry research for its revenue. He wanted TWI to consider future scenarios where it might have to contract and let out the office and lab blocks to commercial or biotech tenants. This notion, says Parry, turned out to be a bit of a game changer, as it forced the client to consider the project not just as a design for itself but as one for a competitive market far more influenced by the look of a building. 'We'd considered the buildings as three agricultural sheds,' he says, 'but in light of Ian's thinking, it quickly changed to the idea of two pavilions, each with its own dedicated entrance and a shed.' But there was a qualitative shift too; the ceramic baguette facade could now be justifiably argued for; not only that, it could be complemented on the pavilions and 100m long internal link corridor with a ground level run of standard Schueco system aluminium glazed cladding.

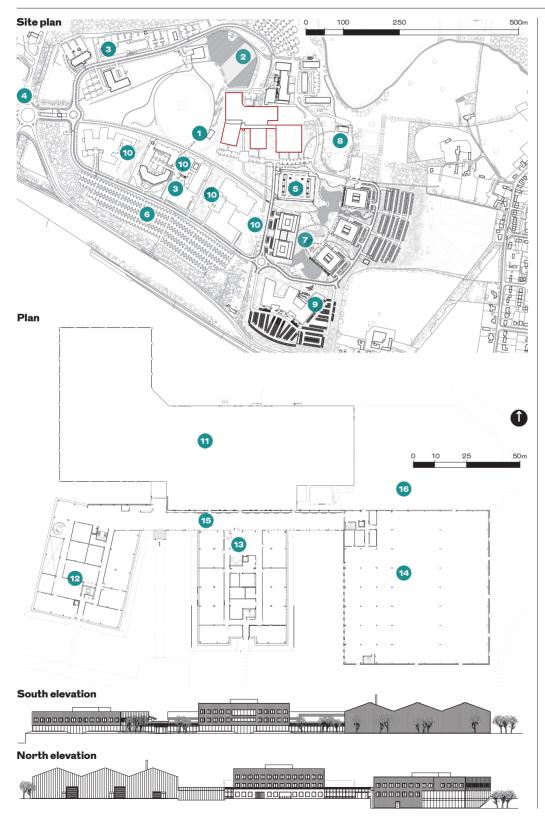
Even the pavilion glazing, recessed 600mm, was augmented with a secondary facade of sheer glazing, hung off a steel perimeter beam running flush with the baguette rainscreen cladding. True, it's a ventilated facade that cuts solar gain to the offices and labs but, meeting a



Top Five colours have been used on the baguettes to create façade modulation between the blocks.

Above Clad in a standard Schueco aluminium glazing system, the 8m wide internal spine picks up on the external baguettes with hanging acoustic baffles with veneered timber on the lower face. The terrazzo floor is designed to take loaded fork lift trucks.

Client TWI
Architecture Eric Parry Architects
Structural engineer Glanville Consultants
Services engineer Hoare Lea
Quantity surveyor Aecom
Landscape Land Use Consultants,
Josephine Morrison Landscape
Fire consultant Hoare Lea
Acoustics Hoare Lea
Contractor SDC builders



- 1 Cricket oval and pavilion
- 2 Balancing pond
- 3 Existing Granta Park biotech organisations
- 4 Main entrance to Granta
- 5 New sunken double deck parking
- 6 Existing tree-lined parking zone
- 7 Future phased office development
- 8 Abington Hall and gardens

- 9 Future biotech HQ
- 10 'Green fingers' connecting perimeter parking to main
- **11** Existing Bevan Braithwaite Building
- 12 Office, admin and
- refectory pavilion

 13 Laboratory and research
- 14 Testing facility/ workshop
- 15 Service spine corridor
- 16 Service yard

grassy berm wall as it does, other ideas come into play. 'The berm was to nestle the pavilion into the landscape and the glazing was to allow everything above it to float,' explains Parry. 'We were aware that labs and offices can change all the time and the flush outer glazing was there to allow the anarchy of partitioning to go on within but still maintain an overarching order from the outside.' The effort makes for some crisp detailing externally and creates interesting relationships internally too: the berm wall is at worktop height, giving staff the sense of being hunkered into the landscape as much as the building is.

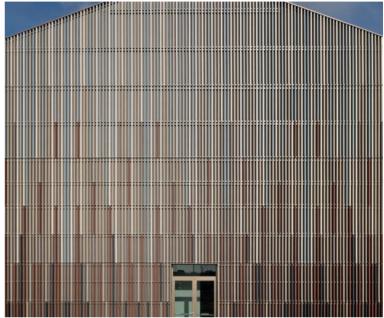
The same attention to detail can be seen at the interface of baguette cladding with recessed upper level windows, where the firm argued successfully to have baguettes run in front of the reveals, necessitating a bespoke spigot detail attaching to the backing rail below each sill. Higson says it was another detail that had to be fought for. 'It accentuates the depth of the reveal and emphasises the idea of the facade as a screen running through as opposed to one of punched windows,' he adds. In fact, the baguette face line is sacrosanct throughout; there's a neat, flush trim at parapet level and even gutter downpipes are recessed back into the facade.

Higson seems keen to acknowledge the efforts of small contractor SDC in the Design &

Below left Inside the testing facility/ workshop. Clear spans allow for heavy duty testing machinery and two high load lifting gantries.

Below right The south face of the testing facility uses the baguettes to greatest effect; the colours appearing to shimmer in the light.





Build procurement of its biggest project to date. While the 9m by 9m steel structure of composite slabs was clad in a fairly simple insulated Metsec system with an exterior weather board, it took skill and no small effort to hand fix and bolt each baguette upper and lower fixing point back to the backing rails - in all there are over 100,000 of them fixed onto the buildings.

Parry admits that with hindsight he would have preferred more colour variation on the pavilion buildings to offset their dull gold, but on the sunny winters day that we visited, the gable end facade of the testing facility was fizzing in the light; the coloured baguettes almost deflecting the gaze; the facade visually resonating - not a bad effect for a build cost of £1500/m².

Yet for all their homogeneity, the three buildings present themselves as very much distinct from one another, with their own unique characteristics. The testing shed as a sophisticated iteration of an industrial shed, the labs and research block's recessed balconies revealed as if a curtain has been drawn back on a stage; and the west pavilion, its double height glazed refectory respectfully addressing that bonkers cricket pitch. It might not be formed of the late Bevan Braithwaite's hallowed willow but he'd probably acknowledge that TWI's new facility, with its facade of wicket-like strips, seems welded to the landscape in which it sits. •

Cladding detail

2 12mm stainless flat handrail

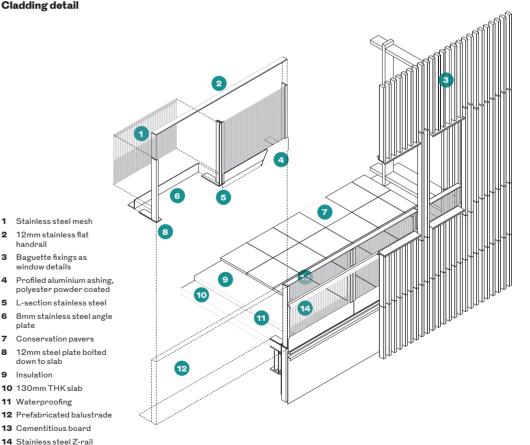
window details

9 Insulation

10 130mm THK slab 11 Waterproofing

baguette support

Baguette fixings as

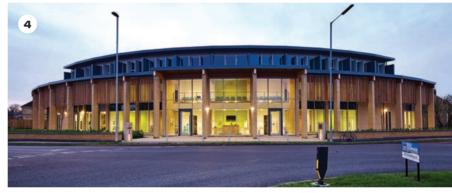


Specified









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iqglassuk.com

2 Azengar and Anthra-Zinc facade VM Zinc

When Facebook trolling, grim reposting, and guilt for not engaging in real-world political action bring you down, think of the rainbow. The symbol of peace and reconciliation from God to Noah, with a dove and olive branch for good measure. The rainbow is above politics. Everyone likes a rainbow – unless it's a gay rainbow and you're a social conservative, or you're in rainbow coalition, ditto. Anyway, this rainbow of louvres on the Maxwell Centre in Cambridge is on a science building; it's evidence-based, fact-driven, and so blameless and above politics. Unless you're President Trump. vmzinc.co.uk

3 Living Wall Mobilane

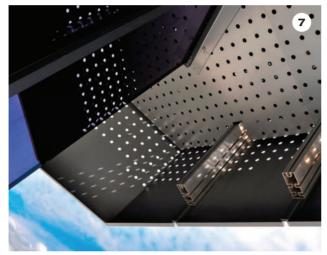
Well known herbal smellies producer, Neal's Yard, is having a hell of a time working out how to gather ingredients from its new Mobilane vertical plantings on its Doest eco-factory. It turns out almost nothing could be harvested by reaching through an open window and a bungyjumping test session merely resulted in boysenberries and fennel being scattered hither and yon. Company scientists are said to be working on an innovative remotely operable mega-scythe but in the mean-time local window cleaners are being issued with secateurs and trugs. mobilane.co.uk

4 Cladding system Kawneer

If God is all-seeing, then this stadium-shaped circular Cambridge Community Evangelical Church with Kawneer glazing from top to bottom will be quite useful as he'd be able to see all the way around. He will have a good view of Timpsons key cutters opposite Wycliffe Road, as well as the petrol pumps at Sainsbury's (great for getting to and opening the pearly gates). He can peek into the Council's Horizon Resources Centre over the roundabout and even wave to himself in the Cambridge City Church of Christ up Coldhams Lane.

kawneer.com









Online project bank Reynaers

In the topsy-turvy world of 2017, where a reality TV star can become president and the judiciary can be against the people, it's best to expect the unexpected. However, we didn't see an aluminium window and specialist cladding company going into architectural publishing. Reynaers' website now includes a series of projects from around the world which incorporate its products. It makes us wonder if we are maximising our own potential. Should we explore basket-weaving or lion-taming perhaps? Food for thought...

reynaers.co.uk

6 Thermally-efficient cladding Technal

As a certified vertigo sufferer, I had to have my mother describe Technal's BREEAM Outstanding University of Lancaster new engineering building to me. She writes: 'Oh, it's very shiny. There are lots of lights at the top. It looks quite nice out and I imagine there's lovely views. How do they clean everything? Don't know what it's like to work here though. Might be warm but doesn't seem very cosy... all that glass. And it doesn't look quite finished out front. Seems to be someone working on the right, it's hard to say. Your great aunt Lucretia is back in hospital. Are you coming to visit?' technal.com

Building facade Proteus

'You can't go out like that, with all them piercings! What would the National Archive say?' 'You never let me do what I want! Why can't I choose what I have on my own skin?' 'As long as you are under my roof, you'll follow my facade-detailing.' 'Arr, Dad, you are just so behind the times'! 'Well, I am the West Yorkshire History Centre. ' 'Yeah, but, but, the Dance School Aurélie Dupont in Paris features panels of perforated metal.' 'None of those fancy foreign ways here, lad. This is Wakefield!' 'I hate you!'

proteusfacades.com

8 SureClad ceramic panels Shackerlev

Little prepared the people of Liverpool for the battle of Neptune and the Triton. They stormed in at sundown, below the Liver Bird, carrying their seething resentments to the site of the near-complete Royal Liverpool Hospital, unwisely built on the battleground. Citizens sought any nook to hide in, some jamming themselves behind Shackerley's robust SureClad ceramic cladding in the half-built hospital at the sound of trident striking trident, the portentous clarion-call of the conch and highpitched hissing and gurgling drowning out the nearby traffic. shackerley.com

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Workplace 19

Where works for the workplace?

A surge in relocations to the regions is seeing a dynamic office sector reinvigorate some of our major cities

Words: Josephine Smit

When Charles Dickens wrote his famous opening lines to A Tale of Two Cities, 'It was the best of times; it was the worst of times', he was describing the very different situations in London and revolutionary Paris. Today city fathers around the UK may be wondering which of those extremes could apply to their own domain. The opportunities presented by devolution and metro mayors, and the government's industrial strategy green paper, must be balanced against continuing public sector funding pressures and the political and economic uncertainty of Brexit.

The city centre office sector has long been an indicator of city prosperity: in this climate attracting property investors, developers and businesses has become more important than ever before. Global competition to win investment is fierce; Birmingham City Council, buoyed by the planned HS2 rail link to the capital, travelled to Qatar earlier this year to woo investors. Much could be riding on the supply and quality of space now being brought through the pipeline: it has the potential not only to bring prosperity to the city, but also to influence UK working practices and productivity, and regenerate and shape the cityscape for the future.

'Regional office markets have all been going through quite a strong period,' says Jon Gardiner, head of national office agency at property consultant Savills. 'Most have been massively undersupplied. One driver in that has been a feeling of decentralisation away from London.' Even tech companies are now looking far beyond Old Street to Glasgow, Manchester or Bristol, adds Steven Lang, Savills' director of commercial sector research. They're being lured away from the capital by value for money and other attractions, he points out. 'The appeal of a city like Bristol is the quality of life, as well as its compactness.'

If present trends continue, cities could be under pressure, Gardiner believes. 'The question is

Holder Mathias' £25 million Swansea Creative Cluster for client Coastal Housing Group, forming an 'urban village' in the town centre.



where will the supply come from in 2018, 2019 and 2020? Many cities are light on grade A development, so the issue is financing when the appetite's there. Most occupiers are averse to pre-letting, but the office market is pretty robust.'

Supply lines

In some cities a shortage of grade A space has already prompted pre-lets. This three-tier classification for office accommodation judges space according to amenity, aesthetics, age and infrastructure. Cardiff has seen major deals for Public Health Wales at 2 Capital Quarter and BBC Cymru Wales at the flagship mixed use Central Square scheme, which is being developed by Rightacres Property. 'That's boosting regeneration opportunities,' says Rhydian Morris, director of office agency in Cardiff for property consultant JLL. Poor quality buildings close to the city's station are ripe for redevelopment, he explains. 'That was the missing bit of the puzzle, but corporate occupier

interest in being close to the station is presenting the opportunity to regenerate.'

Like many cities, Cardiff has seen other uses taking office space out of the market. 'This has squeezed out some tertiary refurbishments – often of 1960s-1980s space – and is now creating opportunities for good quality refurbs,' Morris says. Poor quality space in Manchester has been converted to uses from housing to hotels. 'The grade C market is shrinking. We've seen a cross-section of stock taken out,' reports Rupert Barron, partner at WHR Property Consultants.

Manchester has its own changes on the horizon with devolution, a spatial framework in the making and Joanne Roney stepping into Howard Bernstein's shoes as council CEO. Barronis, however, bullish about the city's prospects. 'Manchester's leaders have always got on with it and delivered results,' he says. 'We've clearly got to watch the economy, but there is a potential space shortage, because the uncertainty immediately after the EU referendum

slowed development starts. We're now looking at refurbishments coming through'.

Alack of new development is also driving refurbishment activity in Glasgow, with schemes like 100 Queen Street, where Comprehensive Design Architects is carrying out a phased makeover for developer Esson Properties. Ewan Cameron, partner in agency and development for property consultant Ryden, explains: 'We're looking for the next wave of new build activity, but Brexit and the possibility of a second independence referendum have created uncertainty. We need to be building large floorplate grade A schemes to compete with other cities.'

But some cities are getting a significant and timely boost from the relocation of government departments and agencies. The Government Property Unit is rationalising its estate, releasing surplus land and buildings and centralising operations. Under the strategy, 137 local HMRC offices are being replaced with 13 regional hubs in UK cities from Glasgow to Bristol, and the search is on for their locations. 'HMRC will be very good news for Glasgow,' says Cameron. 'It will be a pre-let and very large scale for the city, so it will hopefully trigger more activity.'

Quality in identity

The government's property plans are prompting interest for other reasons, says Bill Page, chairman of the British Council for Offices (BCO) research committee, and research manager, business space, at Legal & General Investment Management Real Assets. 'The government is investing in the right internal spaces. It can't compete on salary with the private sector, so its using real estate to help attract and retain talent.'

The 'race for talent' has become a mantra in corporates' human resources departments. The BCO's What Workers Want survey of 2016, co-authored by Stephen Lang, found those wants included working in a city or town centre location, with public transport and amenities nearby. Developers are responding to such aspirations, says Glenn Howells director Dav Bansal. 'Proximity to transport is key, and as regional cities are spending on infrastructure that is helping to generate opportunities for development'.

The significant change that commercial development brings to the cityscape, however, often leads to questions about local identity. Bansal also sees renewed interest in placemaking in



Glenn Howells Architects' One St Peter's Square development in Manchester.

commercial development, with clients wanting to fit into the city rather than stand out. 'Commercial developments are becoming part of the fabric of the city, reinvigorating the civic heart with workplace. Occupiers like the idea of being part of the civic scene, and it helps attract good staff,' he explains. The practice's Paradise masterplan in Birmingham completes Joseph Chamberlain's concept for Chamberlain Square, weaving in the business presence, while its One St Peter's Square scheme in Manchester is part of a family of civic buildings.

Like cities, office developments are themselves becoming more mixed and dynamic. Bansal recalls working in Birmingham's Custard Factory when his working week would end with the sounds of a band warming up downstairs. 'Boundaries are blurring. It's not about the old business district, the sterile public realm and the receptionist sitting in isolation,' he says. 'Now developers are spending a lot more time getting the ground floor to work well, because that in turn creates the place.'

This dynamism can increase the power to regenerate places. On the fringe of Swansea's city centre a mixed use scheme, led by Coastal Housing Group, has brought flexible workspace for creative and start ups as part of a community that includes housing. The brightly coloured Creative Cluster at Swansea Urban Village is part of a scheme dedicated to regenerating a rundown area. 'Before we started this, there was

not much office demand in the city – there was old space in the city centre or space out in business parks. The scheme has created a market,' says Terry Morley, partner at Holder Mathias Architects, the scheme's designer. The architectis now looking at a follow-on scheme nearby.

Local identity can also be expressed on the inside of buildings, through interior placemaking, says Linzi Cassels, design director at Perkins+Will. Cassels talks of engaging staff in competitions to design meeting rooms, to bring out the factors that matter to them, such as the history of the business. 'Often office projects are trying to change culture in a business and involve change management. Part of that is about bringing in local nuances,' she says. 'When I'm working on a project in a city, I don't want the clichés of that place, so if you can talk to people about what makes their city important, it makes for a more authentic interior.'

But whatever the space, location and budget, one word that seems to recur in cities across the UK is flexibility. 'We're already blurring the boundaries between education and workplaces. There's a nervousness about the future direction of the workplace – technology is developing so rapidly,' says Cassels. City councils, investors and developers may have to look forward with an open mind. As Bansal says, 'Large flexible floorplates are in demand now, but in 20 years' time things could be very different.'

OCCUPIER MASH-UP

Across the UK, the occupier market has become polarised: on one side are the corporates with their efficient, sleek interiors, and on the other, techies and creatives in industrial 'defurbs'. 'The key to reconciling them is to remain authentic to the traditional working practices of the corporate sector, while providing an environment that offers a sensory experience and encourages inspiration, collaboration and engagement,' says Mark Davies, principal director at tp bennett. 'That means making working areas to meet different working styles and tasks. The corporate industries are aware that if they want to compete for today's talent, they need to offer spaces with aesthetic impact'. At the same time, the tech sector is coming of age. 'The gimmicks are going,' says Savills' Steven Lang. 'People have seen through slides, treehouses and table football. They want good space.' Across the market, there's a growing demand for simplicity, says Savills' Gardiner: 'We are seeing an appetite for bare surfaces, light and volume - more of a blank canvas.'

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Juergen Teller studio

Juergen Teller's legacy will be more than his photographs – the thermal performance of his new studio should see the building serve generations to come

Words: Pamela Buxton Photographs: Johan Dehlin

Juergen Teller, the German fashion and art photographer, is a man who likes things done well. So when 6a was designing his new studio and office in west London, it's no surprise that although the development had no particular sustainability agenda at the outset, it's ended up with thermal performance stats that astonished even its own design team.

As-built U-values came in lower than targeted in the 0.08-0.1 W/m²k range (compared with 0.35 building regs limits), while air tightness averaged 2.65m³/hr/m² for the whole site (compared with 10m³/hr/m² building regs).

'We pushed it as far as we could to get a great thermal performance,' says Laurence Owen, partner at engineer Max Fordham, who describes the outcome as 'innovative and pioneering'.

"Juergen asked how it should perform and I said very well. He said "then do it",' says 6a director Tom Emerson. 'He really wanted a good building but wasn't prescriptive in how we got there. He trusted us... It's the only project I've ever worked on where everything we put in [at the start] got built.'

The impressive thermal performance has been achieved through a determinedly fabric-first approach involving substantial thermal mass of concrete structure and blockwork walls supplemented by generous insulation and a painstaking attention to detail to create a super air-tight structure.

'The point of fabric-first is that you're designing for a lifespan of 50, 100, even 200 years. The aspiration is for this building to go on and on. We've reduced demand to negligible for heating and zero for cooling,' says Owen.

The project was five years in the making, including two spent on site – which Teller used

as a location for his photography. The completed project is not so much one building as a threein-one arrangement consisting of three top-lit volumes, interspersed with garden courtyards (designed by Dan Pearson) and linked by a long corridor that extends the 60m depth of the narrow, approximately 8m wide plot. The brief evolved – initially Teller wasn't planning to base his studio here and during the project's gestation changed his practice from film to digital. The final arrangement consists of an entrance volume with office, archive, and post-production facilities, a central studio building with staircases leading to store rooms, and at the rear of the site, a more domestic space including a kitchen, library, meeting room and sauna. In practice, however, Teller employees all three spaces and gardens as studios as required.

Each volume is fully glazed onto the courtyards and each has at least two light sources to give different light temperatures — colder north light from the roof lights and warmer direct and reflected light from the windows and glazed doors. The exposed, board-marked concrete fulfils the client's wish to avoid a pristine, white environment. Its emphasis on views between rooms and courtyards — and up and down through each volume — gives a spatial effect reminiscent of the Soane Museum, says 6a's Tom Emerson.

As well as having a large amount of exposed thermal mass, the new building is super highly insulated. The 665mm-thick external walls include 300mm of BASF XPS insulation between the two inner and outer concrete faces, with Kingspan Kooltherm K8 Cavity Board used on the boundary walls in two layers of 100mm. Floors are insulated with 200mm of Kingspan Thermafloor TF70 underslab insulation, again



The point of fabric-first is that you're designing for a lifespan of 50, 100, even 200 years





Above 6a's almost Cistercian aesthetic finds its clearest material expression in the central top-lit studio pavilion.

Left The striated concrete material expression might look cold but behind it packs an impressive insulating punch, with performance coming in well above building reg standards.

Far left Facing out over the street, the front admin pavilion is formally muscular, using a highly reductive palette of materials.



Insulation 25



Above Accoya windows installed in the front elevation were designed by 6a and treated with a tinted oil to complement the concrete face.



Above Concrete fin beams below the north facing rooflights of the studio space don't only look impressive, they act as baffles to deal with potential solar gain from east or west.

applied in two 100mm layers. The roof incorporates 200mm of Bauder PIR rigid insulation.

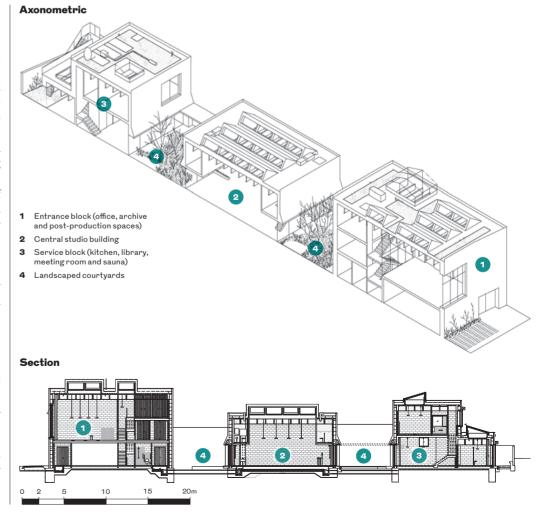
The need for top lighting could have presented thermal challenges. By positioning the studio roof lights to face almost north, 6a allowed just a limited amount of direct light through at certain times of the year, with the concrete beams that run across the space also serving as baffles. Photovoltaic panels are included on the south face to provide hot water in the studio, while the rear building has heating and hot water supplied by solar thermal panels.

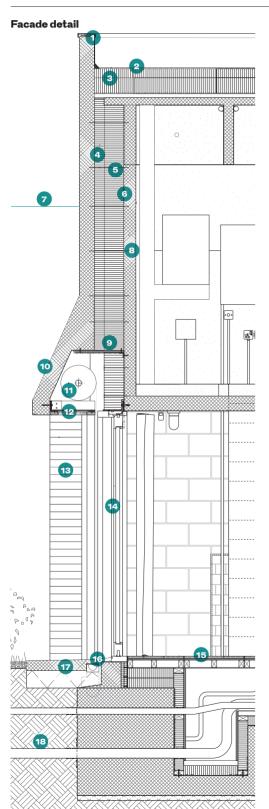
Natural ventilation comes via actuated roof lights and manually openable windows and doors, which have perforated night security shutters for cooling and recharging the thermal mass. In summer, a smart ventilation controller – part of the heating system – is used.

Elsewhere, 6a created vents by directly drilling perforations through the walls, both inside to out and internally, thus avoiding unsightly, applied vents. Air quality sensors allow occupants to check the internal air conditions and take action if necessary.

Continuing the fabric-first approach, the insulated concrete and blockwork has triple-glazed Accoya windows, designed by 6a with an oiled finish to tone with the concrete.

The result is a studio and office environment that is calm, comfortable and flexible; as Emerson says, it's a complete inner world for Teller that can move from festival-like to almost monastic as required.





Right The pared-back aesthetic of concrete block and screed floor might be simple, but it is uncompromised, highly considered and detailed.





- Pressed stainless steel coping with joining sleeve
- 2 Proprietary capping sheet
- 3 200mm rigid insulation
- 4 300mm rigid insulation
- 5 Wall ties
- 6 Vapour barrier
- 7 Top of brickwork boundary wall
- 8 In situ concrete internal face (120mm)
- 9 15mm propriety half hour fire rated board. Intumescent foam to joints
- 10 In situ concrete external face (150mm) with 75mm horizontal board markings
- 11 Security roller shutter within wall void
- **12** Bracket for removable oak soffit
- 13 Boardmarked concrete to door reveals
- 14 Lacquered Accoya wood triple glazed doors
- **15** Formwork shuttering recycled as cover to services trench
- 16 Slot drain
- 17 In situ concrete slab. Edges broken out to meet garden
- 18 Service ducting running between buildings

So much concrete raises sustainability issues that the design team has reconciled with the building's expected longevity. This will be assisted by the incorporation of a service trench, made of formwork from the concrete casting, that will run the full length of the building and give occupants the flexibility to upgrade services and technology as these inevitably change over time. It was in here, rather than in a more conventional location, that Teller chose to photograph Emerson.

'We're talking about a building that will hopefully last for 100 years, and in that time frame, performance far outstrips embodied energy,' says Emerson.

'We and Juergen were very keen to reach the best environmental performance in a building that is easy to use inside and out. Sustainability is embedded without explicit expression and, rarely for us, was built without compromise. Teller was committed to the end.'

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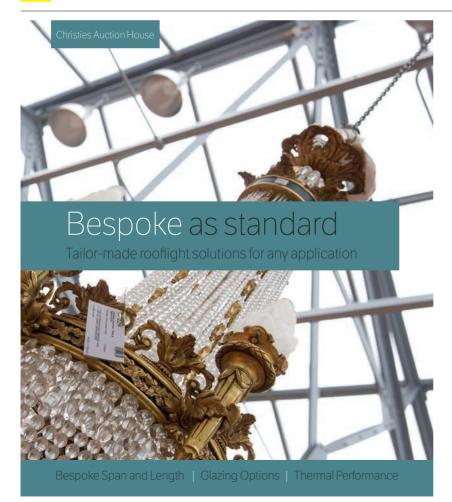














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Insulation 29

Costed

Ruby Galloway of Gleeds Research & Development looks at insulation costs

Part L of the Building Regulations 2013 sets out minimum standards for thermal insulation for domestic and non-domestic buildings. When designing a building it is therefore important to have a standard of thermal insulation that will meet UK building regulation requirements.

Generally, the thermal performance of a building is expressed by its U-values; for walls, floors and roofs, the better the insulation within the overall make-up, the lower the U-value. However, poorly fitted insulation can introduce gaps and cold bridges which can considerably reduce the intended effect of the insulation through thermal conduction, convection and radiation. Consequently, good workmanship

and use of appropriate insulating materials are important in minimising heat loss.

There are various thermal insulating materials available; the four most commonly used types are described below.

Mineral fibre is often used for loft insulation. Material can be laid horizontally under suspended timber floors and within the floor structure; or vertically for stud walls. The product comes in a roll form which can be laid loose between rafters. A more rigid batton is required for vertical fixing.

Rigid boards are used to line the inner skin of the building envelope. Care should be taken at installation to avoid any air gaps between the

inner skin and the board for it to achieve maximum performance.

Loose fill material, made of cork granules, vermiculite, mineral wool or cellulose fibre, is often used for loft insulation and irregular spaces.

Cavity fill can be mineral or cellulose fibre or plastic granules, which is blown into the cavity once construction is complete. This method is also used as a 'retrofit' for refurbishment of existing buildings. Care must be taken to avoid the creation of voids resulting from obstructions in the cavity. Any product's U-value can be used to calculate the appropriate material and necessary thickness to achieve the required thermal performance.

The rates stated below represent a guide to insulation supply and fix costs and are current at the first quarter 2017 (VAT is excluded). These figures have been derived from Gleeds' cost database supported by published material, and reflect rates typically submitted through competitive tenders. No allowance is made for sundry costs or related preliminaries' costs.

Thermal insulation		
The rates below are a sample of general thermal insulation costs.		
Rates are based on new build UK mean based on current market	conditions.	
	Price rang	ge £/m²
	Low	High
Mat or quilt		
Glass fibre mat, laid loose between joists, 100mm thick	2.80	3.60
Glass fibre mat, laid loose between joists, 150mm thick	3.50	4.90
Glass fibre mat, laid loose between joists, 200mm thick	4.60	6.60
Mineral fibre quilt, fixed vertically to softwood, 25mm thick	2.50	4.20
Mineral fibre quilt, fixed vertically to softwood, 50mm thick	3.60	5.40
Mineral fibre quilt, fixed vertically to softwood, 75mm thick	5.00	6.70
Mineral fibre quilt, fixed vertically to softwood, 100mm thick	6.20	6.70
Glass fibre batt, as cavity fill, including cutting and fitting arou	nd wall ties	
50mm thick	4.40	6.00
75mm thick	5.60	6.90
100mm thick	7.00	8.00
Sheepswool mix, insulating batt	14.40	17.90
Floor insulation		
50mm rigid board insulation for concrete,		
suspended ground floor	12.80	16.60
75mm rigid board insulation for concrete,		
suspended ground floor		20.00
100mm rigid board insulation for concrete,		
suspended ground floor	21.70	26.60
150mm, 2 layers extruded polystyrene foam horizontal insulation	21.80	24.20

	Price range £/m²	
	Low	High
Wall insulation		
50mm rigid board as cavity fill, including cutting		
and fitting around ties	11.20	15.30
75mm rigid board as cavity fill, including cutting		
and fitting around ties	15.10	20.70
100mm rigid board as cavity fill, including cutting		
and fitting around ties	21.20	28.20
Mineral fibre, cavity fill, 100mm thick	6.40	7.30

Specified









L-Ments modular roofing panels Recticel

Medieval siege-warfare recreation is an ideal pastime while awaiting site deliveries. Here we see a lull in the creation of a Hampshire eco-house as Graham Lilley, roofer, shouts up to scaffolder Pete Delaney to prepare the catapult for a rotting deer carcass he has scavenged. QS Bernard Pettigrew crouches in anticipation. As the image reveals, while ostensibly fitting Recticel's L-Ments pitched roof insulation the team is in fact attempting to re-enact the 80-day siege of Nuremberg in 1632, when the Swedish army was besieged by the Holy Roman Empire. recticelinsulation.co.uk

2 Timber acoustic ceiling system Hunter Douglas

Just a month after Brexit and managers at the Clubspa and Evergreen Spa at Kenwick Park Hotel, Lincs, have had to turn to imported flora to make up staff numbers. Three rubber plants were brought in as pool attendants after a failed recruitment effort. While the Ficus elasticus have so far proven more diligent in waiting for something to happen without snogging the aerobics instructor than Laur from Bulgaria was, their dive bomb warning whistle reflex still leaves something to be desired. But the acoustic fleece bonded to the back of the ceiling panels should at least keep that short and sharp. hunterdouglas.co.uk

3 Boost R Hybrid insulation

The CofE wants to drive down UK divorce rates by displaying the strings that will be attached during the actual wedding ceremony. Here we see three being prepared for the marriage of Barry Carlton and Meredith Hope in a new venue, the grade Ilisted Danby Castle barn in north Yorkshire. 37-year-old Hope said she knew about the yellow (childcare) and red (putting up with Barry's darts) strings, but was unaware of the black (her intended's snoring problem); the only reason, post installation of Actis' Boost R Hybrid, that any rafters will be being raised. insulation-actis.com

4 FI 5000 floor insulation Celotex

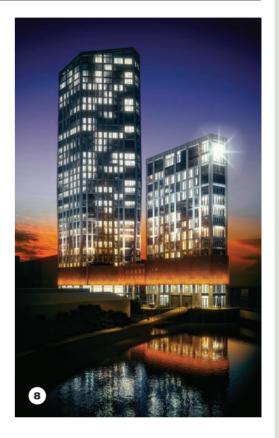
Went to see that Noah last week in his new gaffe - Dunbobbin', north Essex, converted from historic Nissen Huts no less. It's over on Ararat Crescent by the Turkish place. Yeah, it's OK. I like what he's done with the place despite the obvious wear and tear. And there were wasps in the attic. Only two, though, so that was lucky. I am just worried that now he's moored up he's drinking more than he used to. He'd be better off if he dried out, frankly. Celotex's PIR floor insulation should help with that - and it certainly will if he has to float it again.

celotex.co.uk









5 OKATECH insulated glazing Okalux

Having solved Agnetha's curious disappearance and Björn's bizarre but fatal vacuum cleaner mishap, detective Kurt Wallander is looking for crimes to trigger his insomnia and give him an excuse to embrace the bottle again. The next instalment sees him popping to Kungsängen near Stockholm to check out the expanded metal glass facade of its new cultural centre. Kurt's stumped; though by night you can read its face like a book, no-one knows how it got impregnated - and it won't be the first time copper's been locked up inside in order to take the heat. www.okalux.com

6 Kooltherm K100 range Kingspan

Welcome to the finals of 3D Constructivism Homage 2016! We go live to the Old Fire Station, Sittingbourne, Kent, where the Kingspan team is feverishly working on recreating Wassily Kandinsky's 1917 work 'Composition in Space IV' in 3D. We are certain Kingspan will gain marks for its use of Kooltherm K106 cavity board and for the inclusion of the tarp in the background, recreating the painter's original flash of blue. But with just 25 minutes to go, will they manage to lay enough screed to recreate the master's signature gauzy haloes? kingspaninsulation.co.uk

Tyvek and AirGuard membranes DuPont

At Dursley Caravan Treehouse, aka the shed of your dreams, things always work out; with DuPont's breather membranes keeping the whole shebang warm and dry. So the dovetail joints fit, and the sides of the bookcase are at 90°. That watercolour of granny doesn't look like Adolf Eichmann. You finish the draft of your novel about the Belgian Resistance and run into an interested literary agent in Budgens the very next day. The kids feed and muck out the guinea pigs, to scoop rosettes at the village fete. The jam sets. The lawn mower starts. The chisels on the wall remain sorted in size order. construction.tyvek.co.uk

8 XENERGY SL roof insulation Dow

Sky Urals+15.00: Ore! New TV soap set in Cherdyn following the lives of a powerful bauxite-mining family. It's Anna's wedding day but what's happened to the rutabaga starter? Younger sister Mashenka is unhappy with her new tattoo of Vladimir Putin landing on Ganymede. And Viktor's teenage pen pal comes back into his life with an intriguing suggestion for a new method of environmentally friendly electrolysis. In London, meanwhile, Boris buys his dream bachelor pad in Stratford's Capital Towers; safe in the knowledge that over 2500m² of XENERGY SL is keeping his mistress vaaarm. building.dow.com/eu/gbr/en



Café Victor Bozar, Belgium

Circular motifs connect Brussels' new cafe with both past and wider cultural references

Words: Jan-Carlos Kucharek Main photograph: Frederik Vercruysse Other photographs: Walter Vorjohann

Belgian architect Paul Robbrecht of Robbrecht en Daem recalls the slightly unheimlich positioning of Victor Horta's 1928 Palais des Beaux-Arts in Brussels. Its characterful, blocky, Art Deco stone facade runs down the curved and steeply sloping Rue Ravensteinstraat, linking the Royal Palace and civic complex at the top of the hill with Horta's Centraal station and the gothic/baroque city centre at the bottom. It is a liminal zone, connecting busy urban spaces but itself unpopulated. Robbrecht remembers three shops there as somewhat motley and fly-bynight – particularly a charming down-at-heel classical record shop from his youth - a memory that drove the firm's design for the new Café Victor Bozar. Robbrecht wanted to arrest that prevailing sense of transience; to freeze the music, to make people stop and stay.

With the long-vacant shops knocked into one, the firm had 740m² of space to intervene in. 'Our initial inspiration was Horta's original brass window frames, a material that we decided to take inside the café and work with,' says Robbrecht. 'We also wanted to make vague connections with the materiality of the museum and concert hall, like the original green linoleum tiles in the foyers, and reinterpret them here.' These influences are combined with more esoteric concerns. When asked about the circle theme that abounds, he talks of the outward-facing, international nature of the cultural institution; a global touchpoint, 'though we wouldn't want to make that obvious'.

But it unavoidably is, whatever he says. The firm's circular bespoke brass chandeliers, bulbs pointing in all directions, unify the three spaces



Opposite There's a sense of Adolf Loos' turn of the century Vienna to the architect's contemporary take for the café interior.

Left Art Deco angularity and the material qualities of Horta's exterior is translated in a modern reading to the interior.

Below left Dark screed floors and green terrazzo, glass, brass, walnut and mirror make up a materially rich palette.

Below Valerie Mannaerts' art piece 'Pleasure in Making' brings softness and whimsy to the space.





as it steps down the hill. Those same circles become vertical brass circular bands that wrap huge mirrors separating the runs of thick, green leather banquette seating from each other. The same diameter of hole is cut through loadbearing walls, some tantalisingly showing artist Valerie Mannaerts' enormous handmade curtain, which can be drawn to divide the space.

You also sense some real hearkening back to the proto-modernism of turn of the century Vienna in the solidity and quality of the materials chosen. Robbrecht en Daem chose a pale green, fine grain terrazzo to line and top the long cocktail bar. It appears again lining the walls near the kitchen as a robust dado again, and as a circular inset in the poured, dark screed of the floor. Fixtures and fittings have the same imprimatur of quality and longevity; brass and glass

sparkles in the light with the bespoke shelves built behind the bar while the inlaid, stained walnut of the tables is echoed in the deep interior window reveals. The palette is simple, but it is all rich, highly crafted and curated.

Opened late last year, and costing more than double the initial budget to build, Robbrecht admits that the cost hadn't been topmost in their mind. More was the feeling that the café should be there for the duration, to reverse the fleeting fortunes of this in-between place in the city. 'We hope that Bozar will become an important place for generations of artists, musicians and culture lovers to meet,' he concludes, while admitting a vested interest: 'We actually built it for ourselves for when we are very old.' But that's architects for you; they know the cost of nothing and the value of everything.

Credits

Client Palais des Beaux-Arts, Brussels
Architect Robbrecht en Daem architecten
Artists' intervention Valerie Mannaerts
Structural and services engineering Ney
& Partners
Restoration Barbara Van der Wee
Architects
Lead contractor Denys

Specified









AirMaster Sphere carpet Desso

Talk about bringing the outside in - the UK Green Building Council has gone the whole hog here with a green wall that must need an army of Monty Dons to keep it so lush and lustrous. No wonder the GBC went for Desso's AirMaster Sphere 'flooring installation' (aka carpet) which apparently not only maximises air quality by minimising VOCs, but is eight times better at capturing and retaining fine dust than smooth alternatives. That will all give the operation a swagger: 'The staff meeting will have to wait Brenda. I must get my dibber out and tuck that passion flower back in its pocket.' desso.com

2 Esplanade 8500 barrier matting Gradus

Life's looking up for those with stars in their eyes. YouTube Space is London's new 'world-class filming facility' where creatives can 'learn, connect and create' and fans can hang out buying stuff or attending celebrity events. But as we all know, even the stars start at the bottom and any journey through this building symbolically begins the same way – with the humble primary barrier matting at the entrance. Gradus' Esplanade 8500 not only helps avoid slip accidents and stem the spread of dirt, its black anodised linking strips reduce glare too. So the only grime you'll find here will be the musical variety. gradus.com

3 Gallery range towel warmers Bauhaus

Have you noticed how many towel rails there are on the market? Here at PIP the postbag bulges with them, each promising sleek elegance, toasty towels and general luxury. This one from the Bauhaus Gallery range, Svelte, saves you the trouble of reading the press release - the name says it all. Also in white, this high grade mild steel warmer conjours movie-style glamour. Soaking in the luxury tub, your mind could drift off to your own 'I'm Sorry I Haven't a Clue' moment as you imagine your bit part in films such as Flushed Away, Sudsy Malone, Loo Loo Land, Towel-tanic, Spa Wars, Magnum Faucet.... bauhaus-bathrooms.co.uk

InnerVision internal walls Crittall

Crittall windows and doors have a reputation for style that is borne out by this bespoke glazed screen, the apogee of sophistication in a setting that is at once cosy and elegant. The InnerVision range – strong, durable and offering acoustic options – does mean that you'd need to watch your body language though while you are insulated from any impromptu roller-blading on that smooth corridor floor outside. Because if people can't hear what you're saying, every twitch of the eyebrow or crossing of the legs can give away volumes... I refer you to the previous cinematic examples. crittall.co.uk

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The collaborators

PIP's new regular section showcasing inspired partnerships between manufacturers and architects



Robust roof terrace for BA's i360

Bauder's hot melt structural waterproofing provides roofing solution for British Airways' Brighton tower

At ground level of the British Airways i360 tower in Brighton, the world's tallest moving observation tower and first vertical cable car, is an accessible roof terrace area that features $1,500\text{m}^2$ of Bauder's reinforced, inverted hot melt waterproofing system with hard landscaping.

The i360 tower, designed by Marks Barfield, is 531ft tall with an ascending and descending circular viewing platform that has capacity for 200 people. At the end of the 'flight', visitors descend to the terrace deck. Understandably, this rooftop area will experience significant amounts of foot traffic, so the client wanted a waterproofing system that was robust and high quality. Bauder's hot melt structural waterproofing system was a natural choice. The system is designed to last the lifespan of

the building and provides a monolithic, fully bonded membrane that is self-healing to minor punctures.

This new landmark is an exceptional example of how modern architecture and roof landscaping can revive a historical monument – the nearby remains of the West Pier – by expertly and intricately intertwining with over 150 years of history. The i360 tower has already proved popular, having welcomed its 100,000th visitor within three weeks of opening

www.bauder.co.uk 0845 271 8800



Last word in stylish acoustics

ROCKFON Mono Acoustic seamless ceiling system enhances new National Centre for the Written Word

The Word, National Centre for the Written Word, is the centrepiece of a multi-million pound regeneration project in the heart of South Shields. Arranged as a modern rotunda, The Word offers innovative facilities designed to inspire creative ideas and nurture a love of learning. ROCKFON Mono Acoustic seamless ceiling system is installed throughout to meet the aesthetic and acoustic requirements that helped the project win the Public Sector Interiors Project of the Year award in the 2016 Mixology North Awards.

Inside, the circular facade is likened to the pages of a book inviting the reader in. The interior has an engaging and open plan designed to encourage visitors to explore.

The triple height central atrium with a stunning feature staircase (right) is the focal point of the building. Steve Dickson, senior director at

FaulknerBrowns Architects, explains why he specified ROCKFON for the project: 'We'd used the product successfully in a previous project. The key to our specification was that we wanted a monolithic product that is also Class A rated acoustically, so Mono Acoustic was perfect.'

Mono Acoustic combines the elegance of a seamless ceiling with high performance sound absorption. The installed ceiling tiles are finished with an impressive acoustic render to create an elegant, smooth-white, monolithic surface.

www.rockfon.co.uk





Outdoor spaces usable all year

BAL introduces a new range of external tiling solutions for balconies, terraces and roof terraces

With the surge in popularity of outdoor living, architects are increasingly being faced with the need to incorporate balconies, roof terraces and ground floor patios into designs in both commercial and domestic projects.

Making these areas available all year round requires coverings that are durable, hard-wearing and usable in all weathers, which means tiles are the perfect answer. When specified with the correct system assemblies, many types of tile installations are possible externally. This includes the use of finishes such as ceramics, porcelain, some natural stone and pavers.



However, without the correct systems, tiled areas can be susceptible to cracking, efflorescence, or staining — all derived from water damage or fluctuations in temperature.

If water penetrates the lower levels of an external assembly it can pose a serious risk to the structural integrity of any balcony, terrace or patio. If no provision is made for water to drain away efficiently, permeation of water through tile joints will eventually cause damage.

To address such problems BAL, in conjunction with sister company Gutjahr, has introduced a new range of External Tiling Solutions.

Simple to install and providing rapid, immediate and high volume drainage, the system ensures water is drained down through the screed and rapidly expelled from the assembly through drainage mats, grates and drip/drain edge profiles, meaning no water staining and no freeze/thaw threat or efflorescence.

www.bal-adhesives.com 01782591120



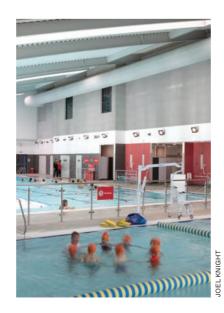
Pool fit for future champions opens

Knauf AMG provides acoustic solutions for state of the art leisure centre

Adam Peaty, the 100m men's breast stroke Olympic Gold medallist, recently opened the £9m Holly Hill Leisure Centre in Fareham, Hampshire. Holly Hill has a 25m swimming pool, learner pool, gymnasium, exercise rooms and dance studio. Knauf AMF provided acoustic solutions to help create a facility fit for future Olympic athletes.

Swimming pools are often noisy places: sound reverberates off the hard surfaces back into the humid air, and high humidity amplifies sound making noise levels seem even higher. Philip Lyons at Space & Place architects specified Heradesign wall absorbers for the swimming pool hall to reduce the noise level, creating a comfortable sound environment.

Heradesign is fitted along the upper portion of the main wall in the pool hall to provide maximum sound absorption (Class A). Heradesign



controls the ambient sound level, reduces reverberation and improves speech intelligibility.

High humidity also posed a challenge when selecting a suitable sound absorbent material. Any material used in a wet environment must be able to withstand fluctuations in air humidity and temperature. Heradesign is 90% humidity resistant which ensures the acoustic panels remain dimensionally stable. For additional protection from mould and bacteria, it is manufactured with a specialist resistant coating.

info@knaufamf.co.uk www.knaufamf.com



Sign Up

Jack Hosea, director at Threefold Architects, gives us his three specification favourites



VALCHROMAT

Valchromat is an MDF product that we have used to create joinery for several projects – such as Fissure House, Airbnb's UK HQ and Murray Mews. The 'through coloured' nature of the product allows you to cut, carve or rout into the material to create details that have exactly the same colour and texture as the top surface. When a matt lacquered finish is applied, the fibrous nature of the material means that although it has a consistent overall colour there is a fine 'grain' that provides a soft visual texture rather than a homogenous flat finish.

valchromat-uk.com



ONDULINE

Inspired by the agricultural vernacular of rural Norfolk, we designed the Long Studio to be a simple cost effective building that the client could construct for itself. For the external cladding we chose Onduline which is made of recycled paper and commonly used to cover the roofs of farm sheds, because it could be used for both roof and walls. We liked its black matt finish and corrugated profile that creates shadow play across its surface; giving the building a soft and mottled appearance. It is cheap, readily available and comes in 'manhandlable' sheets that can be cut on site with a stanley knife.



CROSS LAMINATED TIMBER

We used cross laminated timber to create the superstructure of our Ladderstile House Project and to form the 65m long 'Bridge' workspace for Bathroom Brands. We chose CLT for both its outstanding structural characteristics, which allowed large column free spans, and because the material lends itself to offsite CNC fabrication and so fast and efficient on-site construction. Careful specification of the grade of timber, two coats of osmo hard wax oil and an allowance in its thickness for charring (in the event of fire) meant that the structure could be used as a 'finish' surface at the 'Bridge'.



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...Sign Off

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



YOU ARE LAST IN THE QUEUE...

Think of all the impediments to winning that dream commission – falling at the final shortlist hurdle, not having Alain de Botton as your bezzie, lacking the fortune to commission yourself. Audio branding services firm PHMG's Mark Williamson has another – your voicemail. He says architects 'risk losing custom [by] subjecting customers to generic music while on hold'; they need 'an experience that keeps callers engaged and entertained'. Wish the same applied to staff: some firms think bliss is the rhythmic clicking of mice building to a frenzied crescendo in the run up to a tender deadline, like John Cage with a tic. Einstürzende Neubauten, anyone?



LEAD BY EXAMPLE

It's nice to see students from the Welsh School of Architecture jetting to Barcelona to team up with a school of architecture there and follow in the footsteps of Gaudí, who famously modelled the domes of his Sagrada Familia using hung chains. Their recent pencil sculpture is less individual genius and more crowdsourced idea: 250 participants randomly added 100 pencils each to create the 25,000 matrix in green and yellow. The additive and organic nature of the modelling process aside, it's an impressive way of visualising the amount of carbon it took to fly the students over there. But hey, when global warming looks this good, who's counting?



FIT FOR PURPOSE

Talking of burning, how about calories? Simon Allford boxes, Joe Morris cycles. Although the thought of architects in leather or lycra might not chime with the usual vision of them on their bums in a meeting telling you how great their design is, the fact is, an hour of the lips is a lifetime on the hips. But as home services website Plentific claims, you can keep the weight off without cycling to Mipim with a QS. While the displacement activity of cleaning your desk on deadline only shifts 171 cal/hr, unblocking the loo due to stress related bowel movements burns 237cal/hr. Or how about the nuclear option of just building the goddamn extension yourself? 543 cal/hr!



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