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Ah!...

...2015 and thoughts turn to the election. Given the drubbing architects suffered when Building Schools for the Future was cancelled, who gets in is a matter of real concern to the profession. With Conservatives focusing on economic growth and Labour on public services, who's likely to serve architects' interests more? If the former wins, expect more housing development in a context of relaxed planning controls to drive growth; if it's the latter, a hoped

return to the days of new school building and health centres. Of course, it's not that simple. UKIP's now a fly in the ointment for Cameron and the Scottish National Party is threatening a wholesale defection from Scottish Labour to its ranks – which would significantly impact Labour seats in Westminster. UKIP's policy is purportedly outlined on a YouTube video (modernists, look away now!) and the SNP has its 2013 'Creating Places' document. Both

might be criticised as vague but at least the SNP has experienced the sweet complexities of that compromised Miralles swan song, the Scottish Parliament. It's they, more than those in Pugin's Westminster – and UKIP – who'll be subliminally aware of modern architecture's potential. In this regard, 11 years after the completion of Holyrood, Miralles' upturned hulls may again prove to be a symbol of change. ●
Jan-Carlos Kucharek, Editor



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Cover image: Advocate's Close nestled into Edinburgh's Old Town. Photograph: Kevin McCollum

Compendium



TIM GEORGE

Stuff of legend

AHMM teamed up with facade manufacturer Kawneer to build the £2.5m 'Incubator' on an old airfield in Huntingdonshire. Once a Google search has reassured you that Huntingdonshire does exist outside Robin Hood tales, you might go with the fact it's the first building of a 20 year project to convert the region into a high tech enterprise centre with 5000 homes, new transport links and community facilities. And, with over 280ha of green space, there'll be plenty of room for the Merry Men.

The highest form of flattery

Inaugurated by Dutch King Willem Alexander, Holland's National Military Museum by architects Felix Claus and Dick van Wageningen opened to the public at the end of last year. The 2015 Mies van der Rohe Prize longlisted project pays homage to the great man himself – with its deep, dark, flat roof formed of steel trusses set on perimeter columns referencing his 1968 Neue Nationalgalerie in Berlin, although this, at 250m by 110m, is on a vastly bigger scale. It's also twice the height, but dedicated to displaying the country's military aviation hardware, its 18m headroom is more than justified. Located on a former airfield, the new facility brings together the collections of the Military Aviation Museum in Soesterberg and the Army Museum in Delft.

ANNA REITSMA



NELSON GARRIDO

Smashing the competition

Spain continues to prove itself in pushing of the boundaries of tile use, coming a long way since traditional azulejos – as the 13th Tile of Spain Awards attest to. It was a game of smoke and mirrors for the interiors category winner with a restoration at Castellón's Betxi Castle. Studio El Fabricante de Esferas made a lost half of a medieval cloister appear by magic with an engineered wall of mirrored tiles that reflected the remaining half perfectly. The architecture category winner (left) was Camarim Arquitectos Studio's house in Príncipe Real. Set in the historic quarter of Lisbon in neighbouring Portugal, the terraced home uses a bold, contemporary sea-green ceramic tile that looks both of, and distinctly different to, the ceramic facades around it.

Twists and burns

Newsflash! It turns out that architect Antonio Citterio gets as confounded by hotel shower taps as the rest of us. Launching his Axor Citterio E Collection for Hansgrohe at the end of last year with company head Philippe Grohe, he announced his evolving collection, with its signature silver cross-headed taps, as his latest attempt to make bathing instinctive. With easy to read flow, diverter and thermostat valves, he's hoping they'll consign that early morning hotel scald or inadvertent 'ice bucket challenge' to the past.





UPCOMING

Explore Offsite Inmarsat Conference Centre, London, 3 February

Surface Design Show Business Design Centre, London, 10-12 February

UK Concrete Show NEC Birmingham, 25-26 February



Kitchen sink drama

With phrases like 'sink or swim', 'that sinking feeling' or 'sink estate' in common usage, it's no surprise the sink has had a bad rap. Low self-esteem issues in kitchens are manifested in lazily designed steel sinks or badly specified, trendy Belfast ones, whose bottoms fall achingly shy of the outstretched human hand. But now Germany's Blanco has graced PIP's inbox with a steel sink deserving of the narcissistic pleasure derived from its minimal, highly engineered reflective surfaces. The new Jaron XL 6 S-IF is flush-mounted and has a satin-polish and 'CapFlow finish', which apparently even enhances the look of stray water droplets. With a Blanco Linee-S mixer tap finishing the seamless, cast style, the gutter might at last be looking at the stars.



FORWARD

Prouvé Shanghai

Jean Prouvé will get an Asian outing in March when Swiss brand Bally exhibits its Pierre Jeanneret furniture collection in an installation of Prouvé's 6 x 9 Demountable House at the Design Shanghai Show. Conceived in 1944 to provide emergency shelter for French citizens displaced by the war, it was formed of two steel gantries supporting steel roof beams, in turn supporting mountings for treated spruce walls and corrugated iron roof panels. Bally restored a badly damaged example to its former glory in time for the 70th anniversary of its design last year.

Courses of medicine

German firm Thesing and Thesing Architekten has been doing just what the doctor ordered with its commission for a new medical health centre in the Westphalian town of Heiden. The brief called for seven doctors' surgeries and a pharmacy and, set on the site of a demolished neo-gothic church, inspired the firm to look to past precedents. It gave the new medical centre this form and took the use of brick to new extremes by using them for both walls and roof. To cover the total area of over 3500sq.m, the firm specified Hagemeister's 'Heiden' range, with its iridescent dark reddish-brown hue and hints of blue anthracite. Professor Thesing used bricks because they are 'an honest material'; a notion to which Hippocrates would not be averse.



LUKAS ROTH

Ecobuild

If there wasn't enough excitement on stage at the Stirling Prize last year with the Liverpool Everyman's effusive client madly hugging Haworth Tompkins' Steve Tompkins, the architect himself will be in conversation with the Independent's Jay Merrick at this year's Ecobuild. In the keynote discussion, Tompkins will discuss how the firm created a theatre that met the needs of users, visitors and the city while ensuring a minimal contribution to global warming.

And that might be the overriding thought when representatives from all the main parties gather to discuss 'the future of the built environment', and how they'll address construction and sustainability issues in what should be a riveting election campaign.

As usual, there's a packed programme of seminars in the exhibitor halls. Main topics are building performance, designing better buildings, green energy, refurbishment and retrofit, water and 'Solar city'. Of these my interest's piqued with the following:

Ecobuild's 'Big Innovation Pitch' is aiming to unearth a true sustainable innovation from the show's 800 exhibitors

Chris Twinn on engaging and empowering residents to optimise building performance, and AHR's Judit Kimpian (who wrote this month's special report, p22) on integrated approaches to delivering performance. Hopefully, the University of Reading's Derek Clements-Croome will diffuse some of the media speculation on whether energy-saving construction and highly conditioned environments are bad for your health, and Dan Epstein will give us some pearls of wisdom regarding small-scale retrofit and green construction. There'll also be talks

from the likes of the Passivhaus Trust and the Zero Carbon Trust.

In partnership with retailer M&S there will also be the live finals of Ecobuild's 'Big Innovation Pitch'. This is aiming to unearth a true sustainable innovation – relating to waste, energy, refrigeration, re-use or future proofing, to be chosen from the show's 800 exhibitors. It has two prior heats, the final heat and selection of the winner which will take place at the show and consist of a live pitch in front of a team of industry experts. The winner will work with M&S to apply the product or service in its building stock.

If that sounds too much, you might want to pop over the TRADA stand where competitions to test your knowledge will be run throughout the show, with bottles of wine for prizes. In fact, a bit of Dutch Courage might help you answer the questions better. You know what they say: 'In vino veritas'... ●
Ecobuild 2015, March 3-5, Excel London.
ecobuild.co.uk

PIP takes a look at a selection of products exhibiting at this year's show



Living Wall

Scotscape

Scotscape is taking the concept of 'greening the city' literally with its 'Living Wall' – a lightweight semi-hydroponic modular panel system made from a 'patented advanced geotextile fabric'. Could it be the same kind of material used for model David Gandy's much vaunted pants range for M&S that might explain its use on the Slough store? It's good to see everything held in the right place here too – and does wearing it on the outside give the store some kind of superpower?

Stand S4102

scotscapelivingwalls.net



Speedlane Lifeline

Boon Edam

It creeps out of the darkness unseen like some kind of phantom menace. You might think I mean a burglar but in fact it's the press image for the Speedlane Lifeline range- the latest security system from Boon Edam. It's rigged with sensors, meaning it can detect when you're approaching and can guide you home with 'pulsing light strips'. Sounds like a nightclub dancefloor, but one with only one VIP on the guest list and which purposely excludes any shimmying up to a tall, dark stranger...

Stand N2050

boonedam.co.uk



BIM Components

Alutec

You'd think you really couldn't get any more 'low tech' than guttering, but, it seems, even this is having to keep pace with the times. With BIM becoming mandatory on government-funded projects after 2016, Alutec will be promoting its own range of BIM components at this year's show and will have its technical team on hand to answer questions. They're hoping that this should make specifying your aluminium guttering as trouble-free as water off a duck's back.

Stand S2110

marleyalutec.co.uk



Green Floorzone

Flowcrete

Good things come in threes (take the Holy Trinity or the Three Musketeers) so it's no surprise Flowcrete's Green Floorzone has three parts – underfloor heating, screed and resin finish. You can see Isocrete Alpha at the show; might sound like the name of a fourth musketeer but it's the firm's new cement-free floor screed using reclaimed coal waste. An evolution of anhydrite screeds, it dries faster than a flashing blade and being self-levelling, there'll be no 'buckle' to this swashbuckler.

Stand N6020

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More haste, less speed



Behind the veil of the artist lie advanced simulations and spreadsheets. Gone are the days when skilled master craftsman could build cathedrals from little more than an architectural sketch. Our diverse materials palette demands greater detail and accuracy from architects, engineers and craftsmen.

In 40 years our profession has undergone a tremendous shift from analogue to digital production, enabling rapid creation of complex models with thousands of 3D components and embedded specifications. Yet many practices are missing the true potential of BIM.

A friend once conveyed frustration after spending 10 days placing seat components in a stadium model only to repeat the task a month later with a new bowl design. A little custom code could have done it in minutes.

Not everyone is cut out to be a coding specialist. Most of us model far better with graphical buttons (nodes) and geometry in 3D space than with lines of code. Node based workflows are packaged with a friendly graphical

interface to harness the iterative power of code based modelling – for example Maya's node editor, Rhino's Grasshopper, Blender, and Dynamo for Revit. The most widely used BIM software lacks a sophisticated, fully integrated node based workflow, so we need to use multiple software like Rhino and Grasshopper with Revit and Revit API.

A single node contains information for a specific geometric or mathematical design task, like subdividing a curve or finding a midpoint. A node based workflow links nodes together to perform multiple design tasks in one iteration. With careful rigging, our designs can become highly reactive. Minute alterations to a node early in the workflow propagate changes across a model, producing a new solution in minutes rather than weeks.

Individual BIM components are controlled and updated by a set of relationships determined through the node workflow. Using the stadium as an example, we know each seat in the stadium has a common width and spacing

which can be iterated along a curve that is linked to the bowl geometry. Owing to its highly detailed liquid state, when the 3D bowl geometry updates so too does the curve and the position of all seating. This alters traditional production assumptions. Time spent in the early phases to understand the nodes and relationships, means execution documents and alterations can be produced at phenomenal speed.

Node based workflows aid communication, helping consultants create highly accurate, cohesive working models and production sets. With a few custom nodes embedded with common languages like vb, c# and python, data can be shared and geometry tested, analysed and amended from all angles.

We are on the cusp of integrated node based workflows entering mainstream firms. I look forward to touch screen capabilities with an 'Ironman' like interface. ●

Alan McLean is an architect at **Ron Arad Associates**

Books



Construction Contract Variations

Michael Sergeant and Max Wieliczko
Routledge Informa Law HB 386p £295

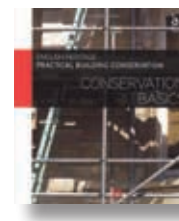
You might want to be in the schtuck – really in the schtuck – before you fork out for this tome on the thorny issue of variations. That said, it's probably the same cost as an initial consultation with a solicitor; so, as with case law itself, it's all relative. Odd, given that variations are so often a sticking point in construction contracts, that the book claims Peter Hibbard's 1986 work on the subject as the only precedent. This up-to-date text, highly specialised and detailed, was five years in the making, and the authors – both at international law firm Holman Fenwick Willan, address variations on an almost forensic level; with thorough content outlines, case references and overview upfront, to guide users more easily through its core matter.



The Hempcrete Book

William Stanwix and Alex Sparrow
Green Books PB 368p £35

This book is intended to update knowledge and guidance in the use of Hempcrete in construction. The material, the introduction reminds us, has low embodied energy, is fireproof, regulates humidity levels and is more thermally efficient than most. Split roughly into three sections, it deals first with the history of hemp, the use of lime and concepts key to sustainable building generally. The second section concentrates, with copious photos and illustrations, on the principles of constructing using hempcrete and its performance characteristics. The final section covers the necessary tools, health and safety and logistics. An authoritative, mind-expanding experience for even the most casual user of the herb.



EH Practical Building Conservation: Building Environment

Robyn Pender, Brian Ridout, Tobit Curteis eds
Ashgate Publishing HB 651p £65

This weighty update of English Heritage's 1988 series is but one of a 10-volume reference for all those involved in historic building conservation, covering the latest techniques and materials. Its technical authors, all senior architectural conservators in EH's Building Research Team, have practical experience both in pinpointing the signs of deterioration in building fabric, and in what to do about it. Given its depth of research, the book still somehow feels like a primer, with only as much truly technical info as the editors consider necessary. There's a sense though that it's a partisan publication, with its recommendation of timber shutters as an effective insulator against heat loss through glass both charming and quaint.

Reservoir logs



What: Reclaimed submerged timber

Where: Bayano dam, Panama

Not all buried treasure is gold. At the bottom of Panama's Bayano dam, built in 1979 to supply hydroelectricity to the national grid, lies a hardwood forest, which, if it weren't for Canadian timber entrepreneur Alana Busby, would remain submerged and slowly rotting. Instead, Busby's barges are busy panning out across the Bayano reservoir's surface sending divers down with chainsaws to free them from their watery bed and return them to the land of the living. Attached to large ballast tanks, tree trunks are not so much felled as floated. 'Once the tanks are pumped full of air, divers cut the tree and it pops up to the surface like a whale breaching. It's quite a sight!' says Busby.

Busby is self-proclaimed fifth generation logger harking from a remote community between Vancouver and Alaska, whose degree in forestry led to an interest in the waste processes of logging, reprocessing and re-use. So when she heard that a small Panamanian firm was underwater logging in the reservoir, she flew down and bought it out to form CoastEcoTimber – but not before she'd carried out research that included the Smithsonian Institute confirming

the nature and quality of timber there. Once it was secured, they reached a financial deal with the local Kuna Madugandi tribe to secure a 15-year concession to access its 15,000ha of underwater forest. Half of her 110 logging and saw mill staff are Kuna, bringing their knowledge of the watery landscape to bear; and, she says, helping halt the drain of families from surrounding villages to the city.

Busby explains that while the 700m board ft of hardwood she's extracting is not 'sustainable' (as she isn't replanting what she removes), it is ecological, with a full chain of custody allowing it to be FSC certified. The extraction process meanwhile seems both high tech and incredibly primitive. While sonar mapping checks the underwater terrain, palm-roofed timber barges made of recycled propane tanks carry out the divers. 'Felling' occurs anywhere from 50-80ft below the surface depending on the season, and is all carried out with hydraulically powered chainsaws lubricated with vegetable oil. Busby's looking to do a deal with firm Triton Logging, which makes an underwater harvester that can deal with flat runs; but in any case it's the Kuna who'll be harvesting the drowned peaks and troughs of their ancestors' former lands. ●

FROM RESERVOIR BED TO BEDROOM FLOOR

Retrieving the hardwoods from the bed of the lake is just the start of the story. Once jet boats have pulled the trunks to shore, they need to be laid in a row and identified, graded and sorted. At the lakeside, CoastEcoTimber has a small sawmill for carrying out blocking and slabbing, and a larger one further away where the firm manufactures finished decking product. Interestingly, Busby explains, trees that have been submerged for a length of time have no higher water content than trees on land; which means they need no more kiln drying time than standard felled timbers. The firm is now working with a Costa Rican business to manufacture engineered flooring, so that after being dried in industrial kilns, the 4mm thick hardwood veneers are applied to a birch ply base. CoastEcoTimber has recently signed a deal with distributor Timbmet to market six of its 14 hardwoods here in the UK (see below).



Left Trunks being brought to the surface.

Above Divers use hydraulic chainsaws to 'fell' trees.

Below Being old trees, the timber can be supplied in large widths.



Available Panamanian hardwoods

- Amargo Amargo/ Central American Danto. Similar in colour, grain and working properties to teak or African Iroko.
- Cedra Espino/ Spiny cedar. A hard, stable timber; ideal for window and door frames.
- Zapatero/ Panamanian Walnut.

Similar to America black walnut.

- Grand Cashew/ White Mahogany. Easily worked, veneers beautifully. For internal use
- Dragonwood/ Canary wood. Comparable to Zebrawood, light-coloured, hard timber with dark streaks.

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Made



Steve McTaggart
Technical manager



David Connacher
Brand manager



What: Norbord OSB Plant
Where: Inverness, Scotland

The plumes of steam emanating from Norbord's plant on the outskirts of Inverness have become as synonymous with the Highland landscape as the forests of pines that surround it – so much so that the factory has become part of local myth. On some days, it merges with the low overcast skies so seamlessly that local school kids call it 'the cloud factory', and even pilots on their final descent to the nearby airport will look to its tall, steel 'finger in the air' to gauge the wind's strength and direction.

But then the local community has been involved with the SterlingOSB (Oriented Strand Board) plant since it opened here in 1985. With 140 people working at the plant and many more employed in tree cutting and forest husbandry, it's a major employer for the city. The firm claims a very low turnover of staff and active upskilling programmes, suggesting good

employee satisfaction levels. There's also a local forum where it discusses bigger issues – such as when the second line was added on the plant's 10ha site – and through which it engages in charitable work. In an area of such dramatic natural landscapes, Norbord has clearly decided it's good business to maintain strong relationships with the neighbours and employees as well as its national customer base.

Entering the UK market 30 years ago, Toronto-based Norbord has three plants – at Cowie and Inverness in Scotland and one at South Molton in Devon. The firm is the only manufacturer serving the UK market that is capable of supplying OSB, particleboard and MDF and, with a total turnover of £820 million and annual production of 208,000 tonnes (equivalent of 350,000m³) of SterlingOSB at the Inverness plant alone, it supplies nearly 50% of the UK OSB market. Its recent merger with the Canadian Ainsworth lumber company, which sells to Asian markets, will make the firm the

world's largest supplier of OSB. With global clout like that, you wonder why the firm still feels the need to get its message out there.

That, says Norbord brand manager David Connacher, is about changing the embedded perceptions of how the product can be used by the jobbing builder. 'Our biggest competition is from the softwood plywood markets; products that have traditionally been used by smaller builders,' he explains. 'OSB is not just about shuttering windows – we want them to know that it can be used for the roof, floors and walls too. We need them to be aware of the benefits that OSB can bring to these works in terms of its quality and engineering – and price. Due to local sourcing and production and reduced transport costs, we can come in at a third less than softwood plywood.'

Technical manager Steve McTaggart backs him up. 'Plywood is embedded mentally and culturally in the smaller builders' minds and we have to change that. Foreign sourced panels

Far left The OSB panel production line.

Top left The 10ha Norbord plant at Inverness.

Bottom left With its intrinsic structural integrity, the uses for OSB are varied.

can be of questionable origin too, while all our products are FSC-certified and meet BBA, CE, the Norwegian SINTEF and BSi certifications. It's a highly engineered board that builders can rely on to stand up to the job.'

In a manufacturing process that involves shredding timber on an industrial scale, both are keen to point out that safety is paramount. Every day, morning shifts start with toolbox talks to maintain safety and quality controls. 'As a result, we have gone six years with zero non-conformances against quality systems. In 2014, we broke 14 production records and have lost almost no time for accidents in three years,' says McTaggart, emphasising the firm's commitment to continual improvement.

In its drive to fundamentally change industry perceptions of its products, as has happened in the US, this approach is all part of preparing the UK market for an OSB revolution. ● This editorial is supported by Norbord www.norbord.co.uk



1. PROCESSING THINNINGS

Forestry management involves thinning trees and re-planting, and the thinnings are perfect for OSB production. Cut to length and with a minimum 70mm circumference, 24,000 tonnes of timber lasts about two weeks. A drum debarker processes 75 tonnes/hr, rotating at 3-8rpm for about 20 minutes before sending wood to the outfeed gate where it passes through a diverter, forming streams of logs feeding the cutting machine. These move onto a jack ladder from which logs will be fed to go into the flaker.



3. DRYING

Burners for the driers are fed by waste dry wood residues produced during production. Driers are 18m long and 4m in diameter and at their hottest will burn at 800°C, with an outlet temperature of 110°C. Strands arriving at the driers will have a 100%-140% moisture content, which must be reduced to 8% by the time they leave the driers. Moisture control is critical to OSB production. Strands pass through sections of a screener to remove small particulate. 'Dirty' steam is routed to scrubbers as part of the plant's pollution control system.



5. PRESSING

A cross cut saw cuts mats to 16ft lengths and a standard 8ft width that the press requires. Mats are then moved to the loader cage, which can hold eight mats. The hydraulic press engages, both heating and pressing the mats in one computer-controlled cycle, which accurately monitors panel thickness and density. Any gases emitted at this point are treated with water sprays and wet scrubbed before being released as the firm's signature steam plume. Mats undergo further quality control and are rejected for blows (voids) in panels and any divergence from specified thickness.



2. FLAKING

Infeed to the flaking machines is remotely computer-controlled. Each flaker has a rotating disk of 48 blades which spin at 400rpm. Logs are held in place with a strap and pushed into the flaker hydraulically. Blades can be set to produce a specified thickness of strand and are changed every 24 hours. Strands fall from the flaking machine onto vibrating conveyors where they are sent to 'wet bins' – so called because they still contain a high moisture content. From here they are sent on to the driers.



4. LAYERING

Strands pass onto conveyors where they are coated with resins and wax. Two types of resin are used: one for surface layers and one for the core layer, applied in two blending drums. Wax emulsion is fed into blenders to homogenise the resin coating process. Strands then pass through swan neck conveyors to the start of the forming line. Dropped down between rotating steel discs, a layer of loose strands is built up. Two surface and one core layer form a panel. It is the consecutive layers laid at right angles that give OSB board its strength. Precise moisture levels are computer checked again.



6. COOLING AND FINISHING

Side and end trim saws cut the mats to the desired master panel size and panels are stamped with Norbord's certification details. Panels are then transported to a cooling line where they are stacked vertically alongside each other to cool through natural convection. Once cut to size, boards are strapped with metal bands and put out into the warehouse for despatch. The finished product is lighter, stronger and more resistant than particle board.

Advocate's Close, Edinburgh

The infill additions of a Doolan prize-winner in the Old Town keep the city's urban texture growing gracefully

Words: Jan-Carlos Kucharek Photography: Kevin McCollum

Clinging like lichen to the bottom of an ancient boat, the jostled buildings of Edinburgh's Old Town define the urban topography of the geology from castle to Holyrood and together justify the World Heritage site designation. But within that context of preservation, look again. Below the Crown spire of the city's St Giles' Cathedral a new crustacean has made itself apparent; a seeming ad hoc collection of buildings gripping – like the rest of the old city – Edinburgh's up-turned hull. Forming a whole block bounded by the Royal Mile down to the edge of Princes St Gardens, the £30m Advocate's Close is a significant refurbishment and new build project that landed local architect Morgan McDonnell the £25,000 Doolan Prize for Architecture 2014. The awards judges (of whom the late Andy MacMillan was one) cited the mixed-use

scheme as 'urban weaving at its most complex, connected into the existing patterns of Edinburgh's upper Old Town.' The result is a picturesque development whose massing and considered, articulated roofscape elegantly sew it into the grain of the city.

As the project clings to the Rock's tail, so the architect clung to the project. The firm survived not only a change of client mid-way through the design but a crippling recession that threatened to scupper the whole project. Firmly ensconced now in its new offices within the development itself, its presence belies the financial storms and patient negotiations it took to get there.

A city block of nine listed buildings stretching for eleven storeys from the Royal Mile to the Gardens, the site comprised light industrial warehouses constructed after 19th century



Below left The Advocate's Close development seen from the top of the News Steps, looking east towards Calton Hill.

Below Stitched in between Roxburgh and Warriston's Close, the serviced apartments use a variety of materials: stone, metal cladding, and render to break up scale. Restaurants face the small square and the steps down to Waverley Bridge.



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SKYLINE FASCIA SOFFIT SYSTEMS

tenement clearance, an 1896 boiler house and the former printing works of Edinburgh's Evening News. Over time, this all came into the ownership of Edinburgh City Council, which gradually bought up the site and expanded into it, altering buildings and refurbishing them in an unco-ordinated and piecemeal fashion. When it moved into new, dedicated offices at East Market Street in 2006, the block was boarded up and, within spitting distance of the Cathedral, was quickly blighted by anti-social behaviour and graffiti that threatened to eclipse even Calton Hill's notorious 'disgrace' levels. With the council keen to reinstate the block as a functioning part of the city, the site was sold and then resold to developer Chris Stewart Group, which kept on Morgan McDonnell with its proposal for a mixed-use development through re-use and extension.

Having its offices on the site put the practice in a very good position to understand the complexities of the level changes and the relationships of the existing Advocate's, Roxburgh's and Warriston's Closes – with their small courtyards off the alleys, connecting the site north to south. Into this complex interlacing of buildings and alleyways Morgan McDonnell introduced a 208-room boutique budget hotel, 30 high-end serviced apartments, four commercial offices and five ground level restaurants/bars. The architect says that in figuring out how these uses would be squeezed onto the site, it had to work at a polarity of scales. On one hand, it had to consider the pedestrian moving across the site and the connectivity and interest, both visual and commercial, they could bring to that experience; on the other was the scale of the city, where the bigger programme would inform the articulation of the roofscape – most crucially when seen from the sacrosanct New Town.

Founding partner Guy Morgan describes the delicacy of the process, explaining that at times the programme would lead, with decisions made to raise the levels of the Roxburgh and Advocate's Close buildings in smoothly cut ashlar sandstone to squeeze in the required serviced apartments – the most visible articulation of the site from a distance. How this roofscape might work occupied the architect for a long time. He adds that this meant a constant iterative process of changing the 3D model to look at the implications of the insertion of the programme, and then returning to the planners to gauge their view of those changes. There's a sense that for the architect it was to some extent an instinctive process – that precedents such as stepped stone gable ends would be picked up with new zinc pitched roofs inserted behind them. Adjacencies were also responded to – with new additions to existing buildings

Plan

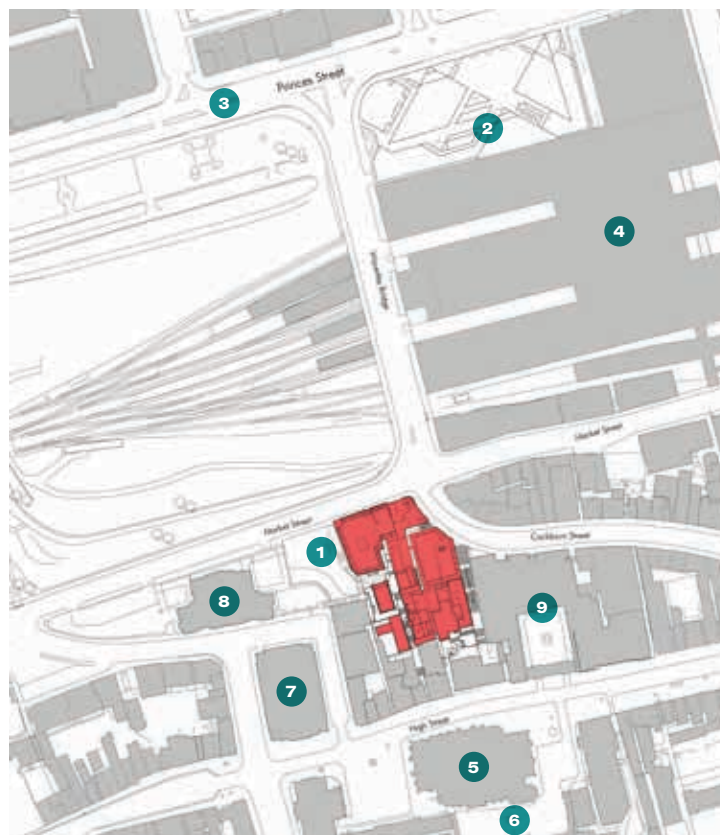


- 1 One Motel
- 2 Motel glass connection bridge
- 3 Warriston's Close
- 4 Serviced apartments
- 5 Roxburgh Court
- 6 Retail units at lower level
- 7 Roxburgh Close
- 8 Advocate's Close
- 9 Architect's office
- 10 Former boiler house
- 11 New connection passage
- 12 News Steps

Section



Location map



- 1 Advocate's close development
- 2 Royal Mile
- 3 Princes St/New Town
- 4 Waverley Station
- 5 St Giles Cathedral
- 6 Old Parliament Square
- 7 High Court
- 8 Lloyds Banking Group building
- 9 City Chambers

0 20 50 100m



Above Formerly boarded up, the Devil's Advocate bar is a charming addition and tempting stop along Advocate's Close.

deferring to the heights of surrounding walls. A large high level timber rainscreen-clad box containing serviced apartments juts out from a wall; an echo, Morgan tells me, of the timber additions that traditionally blossomed on the walls of the city's medieval stone tenements (interestingly, he states, city planners have developed ambivalence to real timber as they're averse to the unpredictable effects of uneven weathering). These protrusions, visible at various points in the development, break up the massing of the blocks as they tumble down the hillside, and are of great effect from the steps, where they provide piques of visual interest for those walking the Closes' steps.

Above the old boiler house, where the developer client now has its office, and behind which Morgan McDonnell now has its home, levels were built up to create once again a semblance of the enclosure that would have been experienced on foot. Here, the language is more contemporary, with dark grey terracotta rain screen panels used as walls and parapets, referencing the sooty Craigleith sandstone that is the defining material of the city. As it is lower level here, and overlooked from higher vantage points such as the top of the News Steps, the firm was keen to incorporate extensive green roofs into the design to feather the modern 'hardness' with a softer, natural feel.

In contrast to the top of the site, the interventions at the bottom are almost invisible,

with the sizeable One Hotel tucked behind the existing facade to Market Street. Totally reinvented behind this facade, including a new open air courtyard that brings light into what would have been dark circulation areas, the ground floor was cleverly planned to hide the reception and devote window space to the bar and restaurant area, enlivening the street facing Waverley Bridge. This approach has been echoed across the site, creating pockets of social life both to the stair journeys and to what were formerly the dead squares of the Closes.

Given the size of the renovation and the new build across the steeply sloping site, logistical issues were highly complex and difficult to resolve. Morgan states that cranes were banned from the site, meaning any steel frame structure brought in to raise existing built levels had to be manhandled through the narrow entrances to the Closes, guided down the steps, hauled into place using pulleys and connected manually by workmen on site. The very process of construction, it seems, has revealed these passages for what they were; the veins drawing the lifeblood of people up through the body of the city. In front of the architects' own front door, meanwhile, a new public route has been formed at the scheme's centre, behind the boiler house offices of the developer, linking the News Steps to Advocate's Close. Stop here a moment and there's a lovely view of the composition as you negotiate a fresh bypass in the city's old heart. ●



Above Morgan McDonnell's own newbuild offices incorporate a new passageway for the city by day, linking the News Steps to Advocate's Close.

Architect Morgan McDonnell

Client Chris Stewart Group

Main contractors Interserve/ George Sharkey & Sons

Archaeological consultant AOC

Fire safety consultant Astute Fire

Planning consultant GVA Grimley

Acoustic engineer RMP

Mechanical & electrical engineer Rybka

PM / QS / CDM Thomas & Adamson

Structural engineer Will Rudd Davidson

Suppliers: offices, apartments, retail

Cablecom Electrical Cairnhill ● **Terracotta cladding, zinc cladding and roofing** Forth Stone ● **New stone and stonework repairs** HTI integrated technology ● **Steelwork** Legge Steel ● **Doors & windows** Marshall Brown ● **Plumbing and heating** Melville and Whitson ● **External aluminium cladding** Metaltech ● **Lifts** Otis ● **Waterproofing & tanking** Peter Cox ● **Single Ply waterproofing membrane** Protan ● **External timber cladding** Parklex ● **Render** Sto

One Hotel: ● **M&E FES** ● **Waterproofing & tanking** Aegis Property Care ● **Glass Bridge** Gray & Dick ● **Retail glazing** Glass Age ● **New aluminium windows & curtain walls** Fleetwood Architectural Aluminium ● **New timber windows** Glasgow & Weir ● **New timber doors** SJS Property Services Ltd ● **Steel windows** Crittall ● **Rooflights** The Rooflight Company / Fakro ● **Stonework** Stone Engineering ● **Leadwork** NFRC Greyfriars Lead & Copper Contractors ● **Single ply waterproofing** Protan ● **Timber structure** G2 Interiors ● **Lifts** Kone ● **Render** Jub System UK

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Clay plain tiles as unique as the hands that made them

Specified



1 Timber panels Cowley Timberwork

After the excitement of the festive season, winter stretches bleakly between Hogmanay and Easter. But here's a way to keep your spirits up: dig out the origami kit Auntie Sally gave you for Christmas and recreate the Alfriston Swimming Pool roof. Cowley Timberworks couldn't quite fold a single piece of timber to achieve its goal, using prefinished panels to erect the roof in just days – but its sharp folds must inspire you creatives out there. Did you know that architects can't fold sheet of paper in half more than seven times without turning it into a design concept? cowleytimberwork.co.uk

2 Handmade tiles Marley Eternit

Whan that Aprille with his shoures soote / The droghte of Marche hath perced to the roote / Roof tiles will have passed their strongest test / Whan folk concurred traditional was best... as publicity poet Geoff Chaucer might have written for Marley Eternit's tale of its newly launched Canterbury range of traditional handmade clay tiles. Should the Miller's licentious Alisoun pass by them today, the courtly Knight or feminist Wife of Bath, all would be charmed by their authenticity, doubtless bickering over the merits of the Etruria Marl they're made of. marleyeternit.co.uk

3 Bat vents Welsh Slate

The bods at Welsh Slate are batty about wildlife, and it's good to see how their bat vents are helping the protected species to roost beneath the firm's splendid roof slates. Available in a range of sizes, the vent's exterior vacuum-formed weathering cowl allows bats to enter under the tile, with an injection moulded under-base unit with non-slip surface helping it into the roof space. Rumours that some in the firm are pressing to add further to the range with wheelchair access and audio-visual guides may be slightly exaggerated. welshslate.com

4 Polycarbonate panels Rodeca

Here's another hangover from Christmas – and I don't mean the over-imbibing sort. Some super-keen architect who couldn't leave work in the office has ruined the kids' game of Pick-up Sticks by assembling them into a roof for an aircraft hangar. But look past that to Rodeca's translucent polycarbonate rooflight, which has replaced an old Georgian glass one. Set in an insulated metal roof, it's up to 200 times tougher than glass at a fraction of the weight. Next job: folding all that discarded giftwrap into a prize-winning roof... oh no, we've done that one. rodeca.co.uk



5
Hydrotech waterproofing
Alumasc

Oddly, it is not the garden in this image that is under discussion in this piece, which actually concerns another on the roof of the monochrome building that overlooks this new planting. Alumasc's Hydrotech hot melt structural waterproofing system and green roof were specified for the retail/residential scheme in Glasgow, from where occupants will be able to relax and admire views of the handsome city. Forget summer evenings: in the mizzle of a January afternoon, scanning the hills for a glimpse of the necropolis will be like the most atmospheric stage set since Hitchcock died.
alumascroofing.co.uk

6
ElitePlus
Euroclad

Keeping up with all the latest trends, Euroclad has created a construction onesie for a manufacturing facility at Birmingham Business Park in Solihull. Including the roof, 5000m² of ElitePlus 54 and 58 walls form an entire building envelope of around 18,000m². Guaranteed for 25 years, the all over wrap will keep workers, machines and materials snug as a bug in a rug. One wonders if, like so many other proponents of such outfits, the building will soon be issuing a selfie: 'Me with Jordan', 'Me and Barack Obama', 'OMG guys, me and Noddy Holder!!!!'
euroclad.com

7
Thermofol membrane
Bauder

The crisp colours and shapes of the world's favourite building material excel in this image of a school from Ireland. But Galway's award nominated Oughterard National School is not in fact built of Lego, the simple and versatile system that is child's play to use, though in any 'build your own primary' competition students would inevitably turn to it. But pupils here are protected by Bauder's Thermofol single ply roof membrane and 120mm Thermotech insulation, keeping them warm and dry, despite the evident rainfall that creates its verdant setting.
bauder.co.uk

8
Esha membranes
Radmat

Guy's Hospital in London certainly shows institutions superiority over buildings when it comes to longevity. Founded in 1721, its tower was built in 1974 and needed a vital refurbishment before it was 40 years old. For this Radmat Esha membranes were used to minimise cost, application time and waste, while keeping safety to the fore. Many famous people have passed through the hospital, not least depressive philosopher Ludwig Wittgenstein, who as a porter advised patients not to take their pills. Perhaps he was formulating a theory on safety and longevity.
radmat.com

Costed

Isabel Arogbo, quantity surveyor at Capita, provides an overview of rates for 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 are applied as either pitched or flat roof finishes, with a flat roof 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 this clearly also depends on the particular circumstances including the desired finish. 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 that contractual responsibility for

design detailing is always defined and clear.

As the applied finish plays such a critical part of the building's life it is always worth giving it careful consideration.

Costs given here exclude main contractor preliminaries and overheads and profit, roof structure, insulation (unless stated), drainage, etc. ●

ROOFING FINISHES	
All prices quoted exclude VAT and correct at 4Q2014. Rates assume works are undertaken in the London region. Assume 5-10% reduction in costs outside the M25 area.	
Tiled finishes	
Rates can increase up to £400/m² depending on the nature of the slate	
Natural slate tiles, pitched, standard uniform size, underlay	£70-120/m²
Natural slate tiles, flat, standard uniform size, underlay	£60-110/m²
Synthetic slate tiles, pitched, standard uniform size, underlay	£55-80/m²
Reconstituted slate tiles, pitched, standard uniform size, underlay	£55-75/m²
Timber shingles, pitched, western red cedar, uniform length and size	£55-75/m²
Clay tiles, pitched, standard uniform size, underlay	£35-55/m²
Concrete tiles, pitched, standard uniform size, underlay	£30-50/m²
Fibre cement slates, pitched, standard uniform size, underlay	£45-65/m²
Metal finishes	
Copper sheet roof, flat, with membrane	£80-175/m²
Copper sheet roof, pitched, with membrane	£95-200/m²
Copper standing seam roof, pitched, with membrane	£100-200/m²
Aluminium standing seam roof, flat, quilted installation, vapour control layer	£80-130/m²
Aluminium standing seam roof, flat, ridged installation, vapour control layer	£95-140/m²
Stainless steel sheet roofing, pitched	£105-160/m²
Lead roof covering, milled lead, laid flat	£85-125/m²
Lead roof covering, milled lead, to pitch	£90-135/m²
Zinc profiled roof, pitched, standing seam appearance	£60-120/m²
Membrane and built-up finishes	
Bitumen three-layer modified bitumen system, laid flat	£70-120/m²
Bitumen two-layer modified bitumen system	£60-90/m²
Bitumen felt roofing system, laid flat, with solar reflective paint finish	£85-140/m²
Mastic asphalt, applied flat, to concrete substrate	£20-40/m²
Single layer sheet roof, warm roof covering, vapour control layer, insulation and water proof membrane	£90-140/m²
High performance rubber roofing, flat	£80-120/m²
High performance rubber profiled roof, pitched, standing seam appearance	£75-120/m²
High performance liquid applied membrane	£850-1100/m²
Air cushion roof (ETFE type roof)	
Fibresheet roofing	
Corrugated fibre cement	£30-40/m²
Extra over cost for transparent GRP sheeting to match	£20-30/m²
Glazed	
Glazed roofing; traditional style with wire reinforcement	£550-700/m²
Glazed roofing; timber framed	£500-650/m²
Glazed roofing; aluminium powered coated framing with factory applied solar protection film	£350-500/m²
Landscape roof	
Sedum roof, laid flat, with waterproof layer, separation layer, drainage and installation layer	£150-225/m²
Extra over cost of roof walkways	
600mm x 600mm precast concrete slabs, laid directly and fixed on flat roof finish	£60-75/m²
1000mm wide rubber anti-slip walkway, laid directly and fixed on flat roof finish	£70-80/m²

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Can we make zero carbon in use a reality?

Despite umpteen regulations and rulings, the performance gap on sustainable buildings remains too large. Is there a solution?

Words: Judit Kimpian

In recent years we have seen a plethora of legislation and incentives to improve the energy performance of buildings and it is hardly surprising that built environment professionals can find it challenging just to keep track of compliance requirements. Are these regulations achieving the expected reductions in energy use – and what is the cost?

We've had changes in Building Regulations; the Green Deal; boiler replacement schemes; the CRC Energy Efficiency scheme; the Renewable Heat Incentive; Enhanced Capital Allowances, and Feed-In Tariffs and more. How effective have they been? Are the 2020 'nearly zero' targets for new buildings realistic, and how do built environment professionals feel about them?

A fundamental feature of current legislation is the lack of a feedback mechanism at both building and stock level. Determining the impact of legislation on building performance is not straightforward and is the subject of several PhD and post-doctoral research studies. Early results are not encouraging.

Evidence based

Recent studies, such as Innovate UK's Building Performance Evaluation (BPE) programme and UCL research into the impact of large-scale fabric and boiler improvements in housing, have gathered important evidence about lower than expected performance improvements in use from typical efficiency measures. The BPE programme offers insights into excessive



costs and potential productivity losses associated with the performance gap that dwarfs the cost of excessive energy bills.

Using crowd-sourced data, the RIBA/CIBSE CarbonBuzz platform has demonstrated a 1.5-2-fold difference between calculated and achieved energy use in the education and office sectors. This is worrying enough for the RIBA Sustainable Futures Group and Architects' Council of Europe to make the 'building performance gap' a key priority. The European

Commission is also looking to study further how low impact buildings, certified according to existing schemes, perform in reality.

Legislative drivers and change

Finding ways to achieve drastic improvements in building performance is imperative. In 2008 the UK government signed up to a legally binding target of an 80% reduction in CO₂ emissions by 2050 compared to 1990 levels (34% by 2020). Its 2011 Carbon Plan aims to reduce emissions from all UK buildings to 'close to zero' by 2050 – a reduction of 24-39% from 2009 levels by 2027.

The EU Energy Performance of Buildings Directive (EPBD) and Energy Efficiency Directive (EED) have been updated, requiring the EU to implement a 40% reduction in emissions below 1990 levels by 2030 and for nation states to increase energy efficiency by at least 27%.

Buildings account for around 45% of our total annual emissions, with 25% of these coming from homes. Energy efficiency improvements in buildings offer the most promising area for regaining growth in the construction sector.

But achieving these goals is a challenge. The EPBD requires Energy Performance (EPC) Certificates for all buildings. From 2018 none with a rating below E can be let and there are indications that this is a major driver for landlords. However, growing scepticism surrounds the relationship of EPCs to actual performance. The cost of improving on an EPC rating is relatively low but several recent studies have found no relationship between EPCs and operational energy use (JLL, TSB BPE, etc.).

The 2010 recast of the EPBD requires member states to ensure that after 31 December 2018 all new buildings occupied and owned by public authorities are nearly-zero energy buildings (nZEB), a demand covering all new buildings by 31 December 2020. The definition of 'nearly zero' is up to member states and in the UK the debate around what constitutes a nZEB has been led by the Zero Carbon Hub for housing and the UKGBC for non-domestic buildings.

The UK government has committed to meeting nZEB targets for new housing by 2016 and for non-domestic buildings by 2019. Yet there is still no final conclusion on what the 'minimum on-site carbon emissions threshold' might be, or on the definition of allowable solutions which permit remaining emissions to be

Right AHR's Bath and North East Somerset's offices in Keynsham nearing completion.
Left One of its cross-laminated solid timber staircases under construction.

What's missing is embedding feedback from completed buildings – the disclosure of predictions as well as performance in use

'tackled through nearby or remote measures'.

As countries like Belgium mandate all new buildings to comply with the highly credible PassivHaus standard, British lawmakers appear to be lowering standards. The right legislative framework is essential to improve building performance – and building regulations have repeatedly been shown to be the most effective way to deliver a step change in construction practice. What's missing is embedding feedback from completed buildings – the disclosure of predictions as well as performance in use.

A way forward

Seven detailed studies undertaken by AHR as part of Innovate UK's BPE programme have highlighted the unintended consequences of the existing EPBD-driven building regulations compliance process. As Part L only requires the performance evaluation of a building under standardised conditions, risk factors relating to construction and building operation cannot be considered and addressed at design stage, nor will solutions be incorporated into contracts and specifications. Likewise, a compliance calculation cannot act as a basis for comparing design stage predictions with actual performance as a full energy use forecast is required to diagnose any problems post-completion.

Having studied the consequences, BPE participants have started to build on the lessons learned. AHR's freshly completed design for the Bath and North East Somerset council offices



and civic centre targetted operational energy use from the outset. Gaining the Display Energy Certificate (DEC) A rating was part of the client's brief, and the team came up with a novel approach. A building 'energy budget' was developed early on, accompanied by a risk register listing every aspect of the design that contributed to the energy rating. Updated at key RIBA Plan of Work stages, the energy budget and the risk register were incorporated in the contractor's prelims. The contractor (Willmott Dixon) in turn signed up to the delivery of the DEC A rating along with the requirement to measure and benchmark the building's energy use on a monthly basis, following handover, during the first year of the building's operation.

This not only delivered innovative architecture but helped eliminate many of the usual problems that arise from the value engineering of critical elements or poor commissioning. Building features relating to the long-term resilience of the building were retained, such as passive ventilation, floor-to-floor heights, vent voids, thermal mass, window specification, etc. Significantly, the project team agreed that as the design exceeded BREEAM energy-related criteria, that certification was not needed. The process set out by the team facilitated collaborative working to share all energy-related data and to recover situations that may in different circumstances have led to adversarial action.

If the project performs to expectations after year one, it will exceed building regulation

requirements and operate over and above nZEB targets. It would also demonstrate that setting the right KPIs and opting for measurement, verification and disclosure could achieve better than nZEB performance in use and significantly reduce regulatory burden.

Next steps

With EU member states actively seeking a lighter legislative touch, this project has attracted the attention of organisations such as the Architects' Council of Europe, the European Commission and UK government departments.

To satisfy Article 11(9) of the EPBD recast, significant EU effort has developed a voluntary common certification scheme for energy performance of non-residential buildings. This would harmonise the rating system across member states and align the reporting of as-designed and in use performance.

If it is successful, it may be possible to supplant this approach to the reporting of resource consumption in buildings too. At a recent Construction 2020 workshop the benefits of mandating disclosure as opposed to detailed regulations were discussed constructively. Given the simplicity of the scheme and the appetite for big business to adopt it, the regulatory framework might just be subverted. ●

Dr Judit Kimpian is director of sustainable architecture and research at AHR, chair of the Architects' Council of Europe sustainability group, and leads CarbonBuzz

The hidden benefits of concealment

British designed and manufactured, the Powermatic concealed door closer provides the architect with many desirable benefits, which enhance aesthetics, safety and comfort across a wide variety of projects.



Renowned for its high quality brass bathroom fittings, architectural ironmongery and Powermatic concealed door closers, Samuel Heath is a rarity among British brassware and ironmongery companies – for manufacturing virtually everything that it sells.

Founded in 1820, the company occupies imposing Victorian premises in the heart of what was once Birmingham's thriving brassfounding district.

Behind this historic facade is a company that is keenly aware of its heritage and the fact that design, craftsmanship and attention to detail are as important today as they were when it was founded.

While holding true to these traditions, Samuel Heath also has

its feet firmly in both the present and future. The company's focus is on maximising the potential of modern design, engineering and manufacturing technology to deliver products of consistently high performance, reliability and quality.

Managing director David Pick explains. 'The traditional skills and values of our past still have their place, but we know that these need to be supported by new technologies. This is why we continue to invest in the latest facilities for all areas of product design, testing and manufacture.

'And it is this policy that has reaped rewards in our market-leading range of Powermatic controlled, concealed door closers.'

Developed to meet the

performance requirements of harmonised European standards such as BS EN 1154 and BS EN 1155, Samuel Heath's Powermatic controlled, concealed door closers are available as standard and free swing models, delivering many benefits which surface mounted door closers cannot match.

The concealed door closer has long been the architect's choice when it comes to retaining the aesthetics of an interior, particularly in hotels and luxury apartments, but the benefits of concealment extend far beyond retaining the designer's vision for a clean appearance. These additional, very desirable benefits enhance the safety, comfort and convenience of every project.

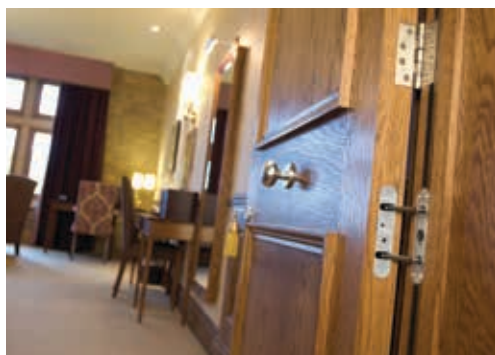
Fitting neatly between the door

Below left Jamb-mounted door closers provide an ideal solution in raised floor situations.

Below Concealed door closers deliver wide-ranging benefits for health and care facilities.

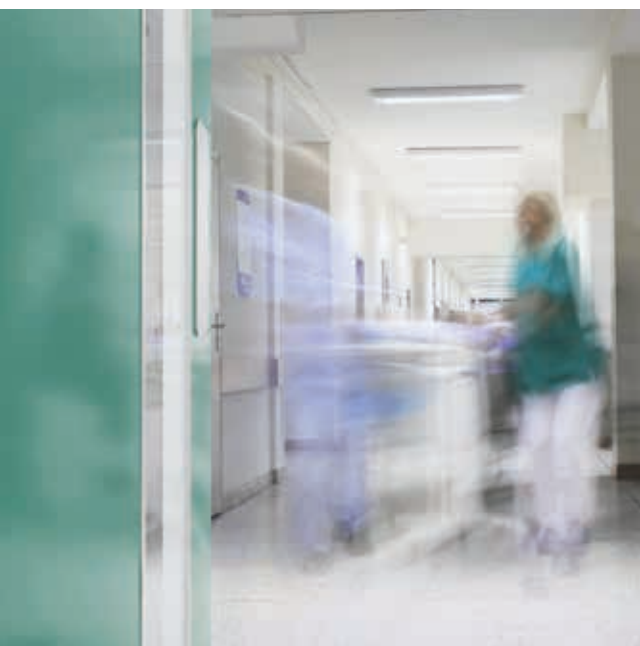


Precision engineering is at the heart of the Powermatic door closer.



Far left Concealment assures great looking interiors.

Left Concealed door closers help to preserve aesthetics and historical features in heritage projects.



and frame, Powermatic door closers are completely invisible when the door is closed and particularly unobtrusive when it is open, presenting little more visible surface than a door hinge.

This level of concealment, and minimal exposed parts, enable Powermatic to provide solutions for challenges faced by architects when specifying for a wide variety of public and private sector projects.

In the public sector, Powermatic's ability to reduce the risk of damage through vandalism assures the reliability of fire doors in education, social housing and other buildings. It can also reduce repair and replacement costs.

In health and care, Powermatic door closers are ideal for anti-

ligature situations thanks to their concealment and capacity to be mounted within 300mm of the door base, a height from which ligature is considered highly unlikely.

Minimal exposed surfaces also contribute to hygiene and cleanliness, while concealment helps create environments that feel less institutionalised – known to enhance the well-being and recovery of patients and residents.

In care homes and other situations where fire doors need to operate as normal doors but close automatically during a fire, Powermatic Free Swing offers an ideal solution, reducing the temptation to wedge doors open for convenience's sake.

Powermatic door closers are

particularly favoured by architects for use in raised floor situations, where floor mounted door closing devices can be costly to procure and install. This benefit is also realised in heritage projects where excavating floors can be undesirable, but where historic features need to be retained. Powermatic's ability to cope with shaped door heads brings additional benefits to the heritage and refurbishment sector.

Samuel Heath's commitment to the development of the Powermatic range has seen the door closer achieve preferred status with many architects. Continued investment in the product will see new products added to the range in the near future, delivering additional benefits and broadening the product's appeal. ●

Above Powermatic concealed door closers reduce the risk of vandalism, assuring fire door reliability.



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www.concealeddoorclosers.co.uk

Vos House, Ekeren, Antwerp

Inventive manipulation of light using glass and mirrors has turned a traditional house into an exciting and unusual home

Words: Marc Dubois Photography: Filip Dujardin



Below left Looking west from the dining room out to the patio, the mirror wall creating the illusion of extended space.

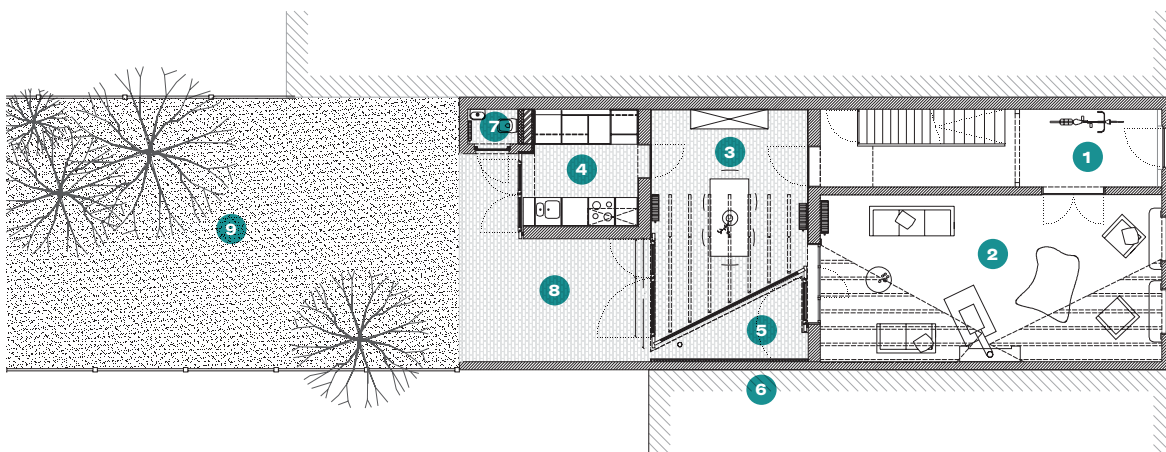
Renovation or extension of urban terraced homes is common in Belgium. Usually, the main facade is unaffected, but the rear section might be altered to increase living space and user comfort and to allow more light to enter the interior. From the street, it might appear that there has been no change at all, but much may have altered within. The Vos House in Ekeren in the northern suburbs of Antwerp is a typical example of a 1930s vernacular terraced house with a 6m wide facade and 8.5m depth, yielding a 51m² plan area. Behind the main building was

a poorly built extension with a small bathroom and storage room above a veranda, kitchen and toilet at ground. The building orientation was unfavourable, the main south elevation facing a noisy street.

The client appointed Brussels practice Architecten de Vylder Vinck Taillieu to renovate the house and propose a new arrangement for the extension. aDVVT has adopted a dual strategy: on the one hand it respects the traditional values of the existing building and on the other offers a complex, contemporary

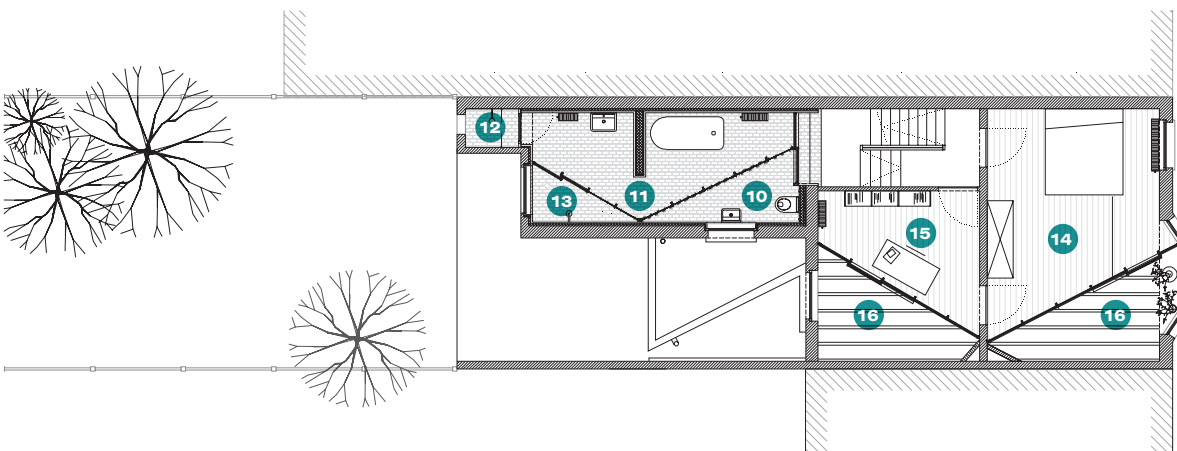
and comfortable space in which to live. The large living room has been restored, with a wood-burning stove installed in the middle of the space. Beautiful original brown-painted timber stained glass bi-parting doors with overpanel that face the garden were retained and refurbished. Most importantly, new and much larger openings were made in the brick extension to open it out to the main house in new and surprising ways. Floor to ceiling glazing and doors, installed in a quirky Z-shaped form in plan, constitutes the renovation's most

Ground floor plan



- 1 Entrance and hall
- 2 Living room
- 3 Dining room
- 4 Kitchen
- 5 Patio space
- 6 Mirror wall
- 7 External toilet
- 8 Terrace
- 9 Garden
- 10 Toilet
- 11 Bathroom
- 12 Internal shower
- 13 External shower
- 14 Main bedroom
- 15 Study space
- 16 Openings down to living room

First floor plan





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watch the video





Above With the ceiling cut open to reveal the first floor windows, light pours into the living room.



Above On the south face, the main bedroom now has an angled glass wall that carries through into the adjacent study space.

A mirror placed against the left exterior party wall intensifies the visual connection with the terrace and garden

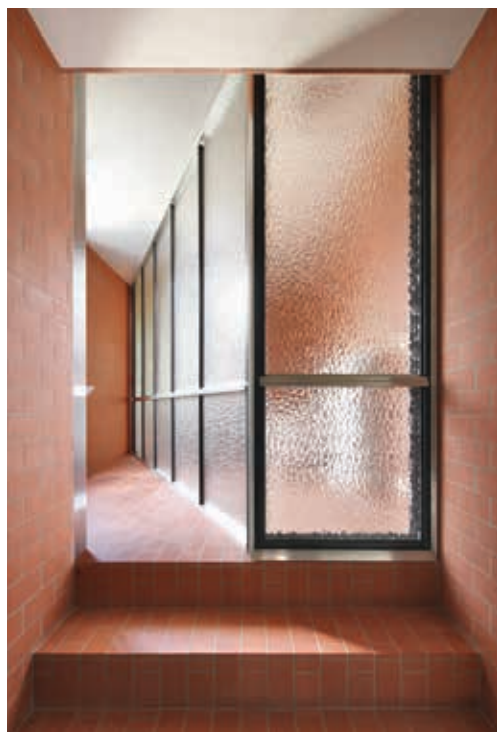
shocking element. The arrangement has generated a small, triangular external patio, allowing the living room area to be easily ventilated by opening the windows.

A mirror placed against the left exterior party wall intensifies the visual connection with the terrace and garden. Architect Victor Horta used mirrors in the interior of his Tassel House (1893) to visually expand the space and aDVVT itself has used them in many of its previous projects, such as the renovation of the Twiggy store in Ghent (RIBA Journal, January 2014). Here this creates a sense of uncanny displacement and a clear connection between the interior and garden. The angled glazing results in an illusory reflection when viewed from the interior of the dining room, which gives a sense of space expanding laterally.

To construct the new roof, wooden rafters were merely connected to the main external wall. A new double door in the dining room gives access to the terrace and garden – which has yet to be completed to the architects' design. The compact kitchen was installed in the lower

annex level north of the new dining room space. Because the bi-parting doors face out, a strong relationship is set up between this space and the garden, which is especially pleasant during the summer.

The position of the upper level bathroom in the rear extension was maintained but it has been subjected to radical reconfiguration. This new work has all been highlighted using bold, sharp red clay bricks, both internally and externally. In their simple expression, the space was also visually expanded. In this type of terraced house, bathrooms are often placed on the landing of the staircase between the ground and first floors, and a small storage room here was eliminated to create the bigger bathroom volume. The elongated space was divided into four discrete areas by using fine aluminium frames of the sort typically found in greenhouses. The use of mottled translucent glass provides privacy, but also lets the daylight enter the space. As on the ground floor, simple red bricks are used for floors and walls. The architect put mirrors between the windows and the wall



Above The simple brick ablation area has been split into four distinct spaces using framed mottled glass.



Above Looking south from the garden back to the house reveals aD VVT's signature baroque spatial moves.

covering to accentuate the small section of bricks. The existing toilet was replaced with triangular showering area, complete with a window that has a lovely view onto the garden, and which can be thrown open to allow for 'open air' bathing.

The main bedroom is situated on the first floor, as well as a small study/office space. As a result of the client's desire for more sunlight in the home's central space, a section of this floor was removed, the timbers peeled away and its wooden joists revealed. South light now pours down through the first floor windows into the living area of the house.

In the two first floor rooms meanwhile, angled aluminium frames were installed along this cut line, as in the bathroom; except that here they are fitted with regular, clear glass, helping to frame the bedroom's beautiful view of the town's church tower. In the converted attic a new timber wall, articulated on one side so the client can use it as a bookshelf library, supports the ridge of the roof. A second, guest,

bedroom occupies the other side of the attic, with small dormer windows bringing light into the roof void. Here, brick walls were simply plastered with fine render, and white-painted.

In this modest project, aD VVT has shown that alternating an existing house can be both deliberate and controlled; conserving the soul and values of the existing structure and giving the additions autonomous and individual character. These architectural interventions don't try to shout and the simple moves are not burdened with the weight of theory. The key principle has been to make the house more comfortable, so that its users can enjoy a better quality of life. For the architect, the challenge has been to create a highly specific atmosphere, merging the interior and exterior; all within the limits of the home's original party walls. Careful, fastidious detailing of all the elements in this considered renovation comes across as this project's main quality. ●

Marc Dubois is an architect and professor at the University of Leuven in Belgium.

The triangular showering area is complete with a window that has a lovely view onto the garden, and which can be thrown open to allow for 'open air' showering

Structural engineer Raadgevend ingenieur de Munck Pascal BVBA, Gent ● **EPB** Creatuur Studiebureau, Puurs ● **Safety co-ordination** Vesebo BVBA, Brugge ● **Construction** van Eeghem BVBA, Algemene Aannemingswerken ● **Greenhouse glazing** de Clercq gebrs, BVBA ● **Windows** Gebroeders Danckers jr ● **Electricity** Loosfelt Guy & Christiaens Katrien ● **Sanitary** Kerstens – Geerts, central verwarming ● **Fixed furniture** Stukken BVBA ● **Flat roof** Vlerick Johan ● **Pitched roof** Ducla Dakwerken ● **Zinc** Bogaert Jackie ● **Outside shower** Pypen & Buizen ● **Stove** JIJ's (architecten de Vilder Vinck Taillieu and Serge Vandenove) ● **Bricks** Ploegsteert, Aloë

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Specified



1

Heritage windows

The Heritage Window Company

This splendid art deco building, crisply set off with The Heritage Window Company's Benenden Conservation Range, lacks only that short pompous man, dapper and coiffed with waxed whiskers and greased hair, unctuously announcing that the least well-bred member of the assembled suspects is the murderer. But did the windows' noise reduction qualities muffle the victim's shocked yell? Had he blackmailed the murderer for trousering the cash saved by the windows' lower maintenance and energy efficiency? Was the secret clue the way the grass is mown in stripes? theheritagewindowcompany.co.uk

2

Facade systems

Technal

Our crime scene moves now to the grittier world of Carter and Regan, detailed to prevent a motley gang of ex-cons raid a building storing banknotes. Seeking inspiration from the new Technology Centre for De La Rue, the world's largest integrated commercial bank note printer, the fuzz find Technal facade systems installed in a security conscious overhaul. Its curtain walling, windows and doors are effective enough to foil the villains before the Sweeney arrive, stealing the limelight and robbing us all of Regan's immortal line: 'All right, Tinkerbell. You're nicked!' technal.co.uk

3

Bifold doors

Origin

You know that post-Christmas, mid winter feeling, when with the tropical beach screensaver and the heating on at 30° you can almost believe you're in the Seychelles? This cross between beach den and Alpine chalet clearly plays the same role on a grander scale, with four sets of Origin bifold doors primed to open the indoor space fully to the summer heat, while promising both warm comfort and views in the snow/monsoon season. Its neighbours might expect it to be a redbrick box in Purley on Thames to us, but as a wise man almost said, if you believe it's not, it's not. origin-global.com

4

Revolving doors

Geze

London's holding on to its seedy past. Soho is also renowned for its bohemian qualities and lively atmosphere. You never know what might meet you round the next corner, and while it's often exciting it can also be more than you bargained for. Boutique hotel The Nadler has a complex system to sort the wheat from the chaff. A welcoming three leaf automatic TSA 325 NT revolving door and two pass doors from Geze invite guests in, but above stands a winged 'nadler' – or naked paddler nymph – ready to drop garlands of shrunken heads onto any unwelcome boarder. geze.co.uk



5
Internal doors
Trovex

‘Where would I be without you?’ breathed Miss Streptococcus to Captain Novovirus as they hitched to Colchester hospital’s West Bergholt Ward on a visitor’s designer handbag. ‘Places to multiply are getting so hard to find!’ The Captain smirked. ‘I’ve always liked the sills of doors’ vision panels,’ he replied smoothly. ‘There should be plenty here. Just the... no!’ He reeled back at the sight of the ward’s new Trovex Hygidoors with their hygienically flush Hygiglaze vision panels – fire rated and bug free. ‘Foiled again,’ he snarled. ‘And I thought I was the smoothest thing in town.’ trovexdiamond.com

6
Glazing systems
Wicona

Remember that dreadful period at school when everyone was desperate to be cool, and did it mainly by dissing you. And your mum said just grow a thick skin and all will be fine. Like, yeah, mum, you don’t know nuffin! Shigeru Ban however turned the advice to good effect with this 3m deep, double skin glass facade for Tamedia’s Zurich HQ. Using Wicona’s glazing systems, Ban has created an environmentally secure but light and transparent building. If architecture ever palls, he could start giving teenagers advice on invisible defences. Warm but cool, kids. wicona.co.uk

7
Box sash windows
Mumford & Wood

Now here’s a house that makes a statement, despite the bleak garden. The strange thing is that the well-heeled residents of this newbuild Georgian country house will look through those lovely bespoke double glazed floor-to-ceiling Georgian-style box sash windows, at a distinctly 21st century outdoor area, parked no doubt with a smattering of gas guzzling fancy motors. Your conversation starter this weekend as you stand waiting for the shoot to start is why pastiche is so popular in home design when their surroundings are always so incongruously anodine. mumfordwood.com

8
Boyland Joinery
Timber windows

What’s this – a sleek nissen hut-style building crouched on a pier in the bay. Back in the days of Cornish beach parties – needing just a fire, sound of the sea, a ghetto-blasters and plenty of alcohol – this would have offered intriguing possibilities as the evening wore on. But lusty souls stumbling over to investigate might be surprised to find that this lifeboat house has wooden windows. Boyland Joinery, part of the Wood Window Alliance, built it for the RNLI, which says timber is the most durable material at sea. Fancy! – you can learn something new even at a rave by the waves. boylandjoinery.co.uk

Bathroom Brands Group HQ, Dartford

A prosaic location is no preparation for this surprising and satisfying bathroom showroom

Words: Jan-Carlos Kucharek Main image: Charles Hosea

It might be the last thing you'd expect on a faceless industrial estate just outside Dartford (it certainly was for me), but something both distinctive and dreamy has been designed by two firms of young architects for sanitary ware supplier Bathroom Brands Group, in the company's £350,000 mission to create something that is both exemplary office space and the best showroom in the country.

It didn't help that the firm was already long into the construction phase of its new warehouse HQ before it had its 'road to Damascus' design conversion. Threefold Architects partner Matthew Driscoll was approached by the client last November and challenged to come up with a design that would unify the activities of its staff in a bold and social way. After years of growing on an ad hoc basis, its various departments were isolated in four different buildings, and the new office was, in a sense, to be a celebration of the firm's success. But with the warehouse layout already prescribed, there was

little room for manoeuvre in the eight months that both architects were given to pull the rabbit out the hat.

Threefold was presented with two stacked floors of office accommodation 60m long and 8m wide – not dimensions that brought to mind the word 'interaction'. As a result its proposal, 'The Bridge', was designed to dissolve that length by creating interaction points along it, and, by placing its main level equidistant between the first and second floors, to break down the vertical separation too. Running a 3m wide circulation slot down the length of the office to join the ground entrance and first floor café with the second floor showroom, the firm opted for prefabricated LVL timber forms that could be simply hauled in and then quickly assembled on site.

On its way, the multi-stepped form creates kitchen points, an amphitheatre space for big meetings, and more private booths for work/conversing. A triple-height wall of shaped

timber slats deadens any echoes while roof-light plays across the slats' surfaces.

For the office bathrooms and showroom, the client looked to Threefold's former colleagues at Níall McLaughlin's offices, Coppin Dockray Architects. After the robust simplicity of the offices, this is rather more dreamy, extravagant and costly. The firm created a dark initial space clad in glowing Japanese washi paper, within which it placed an imposing golden focal water feature formed of hundreds of brass WC chains. It's a meditative moment before you hit the 90m long showroom, through which you will be guided by 5000 amber-coloured glass baubles; each one pinpointed in 3D space as if to mimic the vortex of a plughole. At the end of a dozen or so fully designed product scenarios, you'll be sucked into a darkened blue space to experience a shower and faucet son-et-lumière. The whole experience, set on a Kent business park, has a satisfying strangeness: it's a bathroom showroom, Jim – but not as we know it. ●



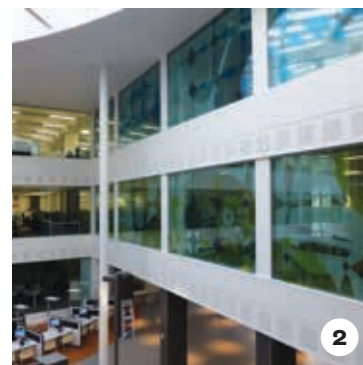
Below left Partitions separate the various bespoke bathroom options, all connected by 6,000 glass bubbles and started by a stunning curtain of WC chains.

Below right Terminating the showroom is a darkened egg-shaped space where visitors experience a showering light show.

Below The bridge not only creates points of interest and interaction along the length of the office space — it also connects the first and second floors vertically.



Specified



1 Fire protection Plumis

The name Du Toit evokes images of azure South African skies, golden savannahs, red earth and vibrant patterned textiles. This Mrs Du Toit, caught between the anodine and the meticulous, had the opposite in mind for her all-white kitchen, built to a level of perfection that sprinklers threatened to impair. But not to worry, she resolutely tracked down Plumis' BRE-tested Automist, which gently fills a room with a fine mist of water to dampen fire. Perhaps she yearned for the cloud that tumbles over Table Mountain ... mmm, I can smell the boerewors already.
plumis.co.uk

2 Partitioning systems SAS International

It's amazing what you can do with photographs nowadays, but would you believe that the picture you are looking at is of a 1930s brick and steel frame building? In fact it's not the image but the refurb that's remarkable: within the original facade sit entirely new offices and chamber for Derby City Council. The award winning scheme involved SAS partitioning and fire screens, notably its System 8000 frameless glazing. In a refit that has quadrupled staff accommodation to 2000 from 500, the tardis-like experience of interior surprise is complete.
sasint.co.uk

3 Internal doors Bertolotto

When it comes to interior design nowadays it seems you can have any colour you want as long as it's white, as Mr Ford nearly said. The sleekly flush Walldoor Massima comes from Bertolotto Porte, 'leading manufacturer of interior, contract and armoured doors', says the press release. The only mystery about this is why anyone would need an armoured door in their designer apartment. Either these are the glamour end of the offer, or they are the silk glove on the iron fist of a panic room, elegant but robust enough to withstand the daily pounding of a large family of boys and dogs.
bertolotto.com

4 Fascias and counter tops Corian

Spanish exhibitionist and artist Salvador Dali and his wife and muse Gala loom characteristically large in the restored Hotel Vincci Gala Barcelona. With an eye-popping colour scheme of red, black and gold, Corian's new Deep Nocturne forms flowing fascias and counter tops for the dramatic bar design. One can only assume the moustachioed self publicist would have approved, though if he'd ordered it himself he would most likely have pulled his regular trick of drawing on the payment cheque – to ensure it didn't get cashed. Charming. Those plants could do with a water.
dupont.co.uk

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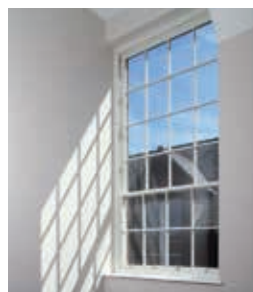
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www.north4.com



Gilgen

The Gilgen FD 20 swing door operator recently passed stringent fire safety tests carried out through Exova Warringtonfire, one of the world's leading fire safety testing specialists. Following the tests the FD 20 was approved for use on timber fire door sets providing up to two hours protection and metal fire door sets providing up to one hour protection, meeting the requirements of BS EN 1634-1:2014.

www.gilgendoorsystems.co.uk



Draks

Draks has supplied wardrobe doors and room dividers at Dorchester Living's Heyford Park development in Oxfordshire. Each of the 11 different house types that make up the 30 homes in the first phase of the development will have a bespoke version of the Italian inspired Jericho sliding wardrobe doors. With a full length aluminium handle, the Jericho doors provide a contemporary look.

www.draksonline.co.uk



Reynaers at Home

This spectacular home in Ireland is one of the first Passivhaus rated energy-efficient homes in the country to use large areas of glass. Its huge panoramic windows offer great views without compromising thermal performance. Reynaers at Home's aluminium windows and doors were used, as these allow for large panels of glass within slim frames. The CP 155-HI sliding glass doors can go up to 3m in height.

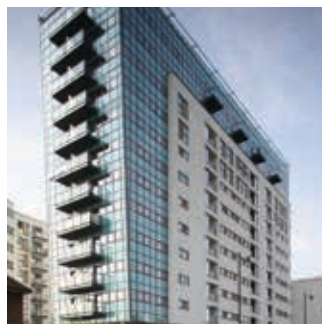
www.reynaersathome.co.uk



Urban Front

Steel reinforced door designer and manufacturer Urban Front has announced a new Workshop Tour for the spring. The first workshop is scheduled to take place on 10 March at Urban Front's premises in Chesham, Buckinghamshire. If you are interested in attending, email elizabeth@urbanfront.co.uk. The company also runs regular RIBA-certified CPD courses on Specifying Hardwood Timber Doorsets.

www.urbanfront.co.uk



Reynaers

A 13-storey residential and commercial development by Bellway Homes in Enfield town utilises Reynaers' CW 50 curtain walling facade with ES 50 opening vents and CS 68 doors inset to enable balcony access for residents. Use of stylish integral opening vents and doors fit seamlessly into the facade. The CS 68 three chamber door system combines high insulation levels with optimal safety.

www.reynaers.co.uk



Tormax

As part of a significant refurbishment TORMAX recently recommended installation of two iMotion 1401 concealed operators to automate a double set of glass swing doors welcoming visitors into the Sadler's Wells theatre, Islington. Uniquely designed with no abrading parts, the synchronous motor of the iMotion 1401 requires minimum maintenance and so can be neatly located out-of-sight under the floor.

www.tormax.co.uk



Dorma

Combining quality hardware with easy-to-use software, Dorma's access control systems will help to protect assets and property with the highest standards of security. Dorma has now produced an electronic access control brochure to provide architects, designers and specifiers with technical, installation and performance details on the latest range of access and security products.

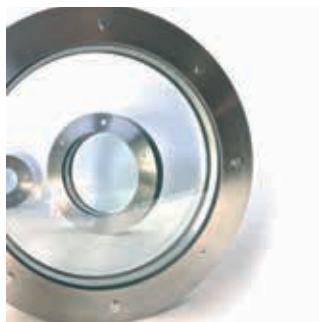
www.dorma.com



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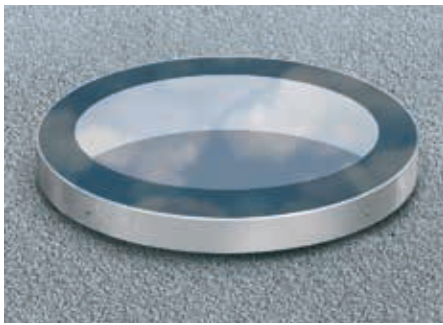
www.centor.com/uk



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Phillip Watts Design offers a wide range of porthole vision panel kits in a variety of shapes, sizes and materials – from simple single glazed aluminium circles, to high specification one hour fire rated DDA compliant double glazed stainless steel lozenges. Manufactured in the UK, bespoke shapes, sizes and finishes are easily accommodated.

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**Vitral**

SkyVision roof lights from Vitral feature non-intrusive framing, which suits all design styles and applications. SkyVision Circular is the latest addition to its range. The circular top plate is fitted with UV resistant gaskets and exceptional performance includes a low U-value of 0.97 W/m²K. Easy to install onto flat and shallow pitch roofs, its elegant design offers high quality at a competitive price.

www.vitral.co.uk

**Pasquill**

Pasquill's Uddingston branch has signed a regional deal with McCarthy & Stone, the retirement homes developer, covering 12 sites over the next 18 months, and puts a key part of this success down to facilitating a supply and fit approach. The UK's largest supplier of roof trusses reports growing demand for this process, especially from main contractor clients for large-scale projects.

www.pasquill.co.uk

**SIGA**

Chosen to replicate slate once quarried locally in north Wales, SIGA slate has been used on Cwrt Gloddaeth, a residential retirement development in Llandudno. Specified by architect The Planning Bureau for McCarthy & Stone, approximately 29,000 SIGA 32 Specification slates feature on the 1,500m² roof area of Cwrt Gloddaeth, which provides 44 one and two bedroom retirement apartments.

www.sigaslate.co.uk

**SIG**

Bespoke cut-to-size zinc from SIG Zinc and Copper was chosen for two four-bed luxury houses in Hertford. The pre-weathered NedZink Nova cladding not only gave a traditional feel, but minimised the thickness of the wall build up. For the roof, a rolled standing seam was specified. Nova's mid-grey colour blended with the natural tones of the surrounding buildings. Save money on your next metals roofing and cladding project.

www.sigzincandcopper.co.uk

**Fakro**

Fakro has launched a gable system for flat roofs. The Fakro EFR Flat Roof Gable System provides an apex for roof window combinations and can be used in pitches up to 15°. Installed with standard Fakro roof windows, which are purchased separately, all fittings are supplied for window widths of 78cm and 114cm and a standard height of 118cm. A Fakro Thermo flashing can also be used for added thermal efficiency.

www.fakro.co.uk

**Nora**

A new research and development centre in the Dutch city of Utrecht for food specialist Danone used 3,600m² of nora systems' noraplan signa acoustic flooring throughout to provide a high level of walking and standing comfort. The floor also lowers footfall noise levels in the Danone Innovation Centre and contributed to the building achieving a 4-star BREEAM certificate for sustainability.

www.nora.com

**Junckers**

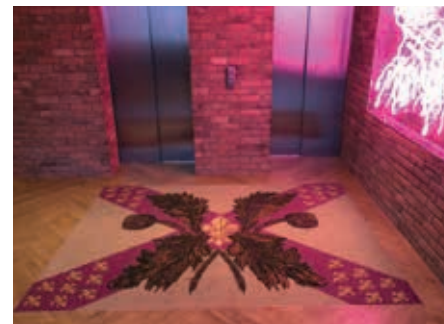
Junckers has developed a new collection based on the success of its finishing product Driftwood Grey Oil. Available on its full range of solid oak floors, wide board planks, two-strip and textured oak floors, the new Driftwood Grey Oak has a distinctive, 'worn' look, with the patina of a rustic, aged wooden floor without compromising on any of the benefits of a Junckers solid hardwood floor.

www.junckers.co.uk

**Gerflor**

Scottish care provider Pacific Care chose Gerflor flooring products for its new £4.2m Mosswood Care Home facility in Paisley. Gerflor's Taralay Impression Comfort flooring was chosen for the residents' day rooms and corridors whilst the Mosswood Care Home toilets which needed to be slip resistant, safe and easy to clean, were covered with Tarasafe Geo vinyl safety flooring treated with Sparclean.

www.gerflor.co.uk

**Newhey Carpets**

Newhey Carpets recently manufactured more than 950m² of uniquely designed carpets for the Ibis Styles, Edinburgh Centre St Andrew Square hotel. The carpets and designs were influenced by Scottish history, landscapes and literary figures. Colortec+ was selected as advanced high-speed patterned tufting technology enabled the specification of highly complex designs.

www.newheycarpets.co.uk

**Forbo**

Forbo Flooring Systems has enhanced its Nuway rigid entrance flooring range. The Tuftiguard Classic and Design collections now benefit from two scraper bar options: Black Anodized provides a contemporary matt black finish, while Bamboo sits perfectly with interior wood finishes. The Nuway Grid and Connect single sided systems also now feature a new rubber Ultragrip insert.

www.forbo.com



Blanco

For homeowners, architects and kitchen designers who favour clean lines, symmetry and a minimal look, the new Blanco Jaron XL 6 S-IF sink is the ultimate in cutting-edge design. Part of the Blanco SteelArt series, it features angular lines and a square main bowl and drainer with wide tap ledge in the centre. The sink's flat rim also has the appearance of being flush-mounted into the worktop.

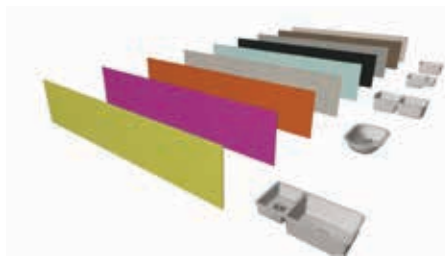
www.blanco.co.uk



Weber

Saint-Gobain Weber's external wall insulation (EWI) has been specified by emh homes in the thermal and aesthetic upgrade of homes in Ilkeston, Derbyshire. These three-bedroom semi-detached properties, built with single brick skins in the 1930s, have recently been wrapped in weber.therm X M EWI that will reduce heat loss by 85% and slash U-values calculated by Weber from 2.0 W/m²K to 0.3 W/m²K.

www.netweber.co.uk



LG Hausys

LG Hausys' solid surface material HI-MACS is used in both futuristic architectural projects for external cladding and also for a range of interior products in architectural applications. HI-MACS' colours and shapes are now available in a digital format used on the CAD systems from Sketchup, Archicad and Revit. So designers can now download HI-MACS colours and shapes in BIM objects for these software packages.

www.himacs.eu



Kingspan Insulation

The Kingspan OPTIM-R roofing system and Kingspan Thermataper TT47 LPC/FM have been installed at the Meadowfields extra care housing scheme in North Yorkshire, helping to deliver optimum thermal performance and the required tapered fall, with a minimal build-up. When complete, the site will incorporate 52 apartments along with community services such as a restaurant, hairdresser and library.

www.optim-r.co.uk



Mapei

Mapei has introduced two additional colours to its flexible, water-repellent grout – Keracolor Flex. The low VOC product is now available in seven shades which include the two new colours, Sand Storm and Soft Stone, alongside the original colours launched in May: limestone, oyster, pearl, pebble and white sand. Keracolor Flex is suitable for grout joint widths from 1mm to 6mm.

www.mapei.co.uk



Signbox

Signbox has collaborated with interior designer Resonate Interiors for an eye-catching refurbishment of the commercial reception area at the Paternoster House office complex in Paternoster Square, City of London. The architectural sign specialist was fundamental to executing a challenging signage project that has greatly enhanced the property's conspicuousness in an historic area of the British capital.

www.signbox.co.uk



Mapei

Mapei has devised a range of new colours to enhance wood effect tiled finishes. The colours are available in Mapei's flagship grout, Ultracolor Plus. The colours are supported by a matching sealant, Mapesil AC. The new colours offer a grouting solution for practically all wood effect tiles from pale to rich wood tones. The new colours are moon white, sand, silk, golden dust, mud, volcano sand and tornado.

www.mapei.co.uk



Mapei

Mapei has launched Ultratop Loft F and Ultratop Loft W to complement its Ultratop cementitious range of wall and floor products. Both are ideal for creating aesthetically pleasing floors and walls, with a classic trowelled or mottled effect. They are available in two aggregate sizes: either coarse (Ultratop Loft F) or fine (Ultratop Loft W), offering two different appearances depending on the ultimate finish required.

www.mapei.co.uk



Mapei

Mapei has developed Mapesilent Slatted, a soundproofing system for solid and engineered tongue-and-groove wood floors. The system comprises a slatted soundproofing mat and a thixotropic elastic adhesive. It can be quickly installed onto concrete, prepared anhydrite-based screeds, smoothing compounds and existing tiles. It can also be used on screeds that contain an underfloor heating system.

www.mapei.co.uk



Kawneer

Architectural aluminium systems supplier Kawneer has relaunched its website to make it more intuitive for users, whether they are using a PC, laptop, tablet or smartphone. One of the new features is the ability for users to bookmark products so they appear in a personalised list in the site's navigation bar. Other new features include quick links to technical specifications, CAD files and BIM models.

www.kawneer.co.uk

call: +44 (0)20 7496 8338 or email: clive.waite@ribajournal.com**Structura**

Designed by BDP architects, this link bridge at the Queen Elizabeth Hospital Birmingham is formed from Structura's Kalwall, pierced at intervals with full-height windows. The cladding admits natural diffused daylight to create an attractive ambience without shadows or glare, while providing privacy. Kalwall is increasingly specified for the refurbishment of aged cladding and rooflights.

www.structura-uk.com/kalwall

**Mapei**

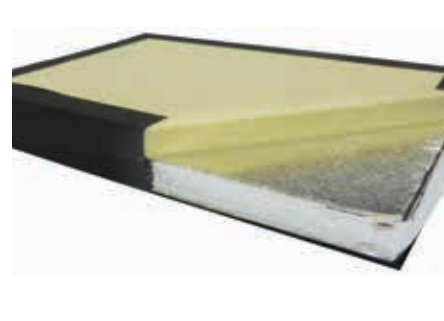
Mapei will exhibit at Ecobuild 2015 (Stand N7030) with 'Pamie', its new demonstration vehicle and hospitality suite. The van will be the focal point of the stand, offering hospitality and an informal meeting space for visitors and will be supported by live demonstrations across a variety of products lines. It also features a plasma screen suitable for installation videos or CPD presentations.

www.mapei.co.uk

**D R Services**

Developed in Germany to exacting standards, MWE products are now offered exclusively in the UK by D R Services. MWE's library ladders, sliding doors and shower systems are ideal for projects where precision, functionality and attention to detail are demanded. D R Services works with clients to achieve the right specification for projects and can advise on the most appropriate MWE product for any situation.

www.drservices.co.uk

**Bauder**

Flat roof manufacturer Bauder will be launching its vacuum insulated panel (VIP) at this year's Ecobuild. Designed to provide high thermal performance in areas with limited height, VIP is ideal for terrace and balcony applications. To see the unrivalled performance capabilities of Bauder's revolutionary new insulation product visit stand SS2100 at Ecobuild, March 3-5, where it will be on display.

www.bauder.co.uk

**Ancon**

Ancon will launch its latest product at Europe's largest specialist concrete show in February. Its new acoustic dowel is designed to transfer shear load and allow essential movement at joints, while also reducing impact sound through a building by isolating adjacent concrete elements. The dowel locates in a sound damping sleeve that decouples components such as concrete stairs and the main concrete frame.

www.ancon.co.uk

**Ancon**

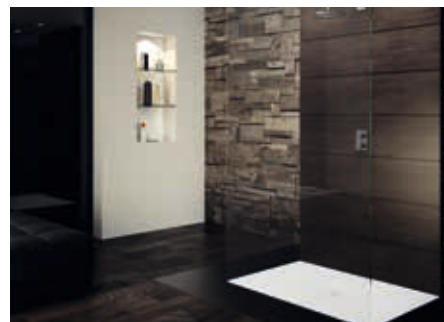
Ancon will introduce its new acoustic range of cavity wall ties and shear load dowels at Ecobuild 2015 in March. The acoustic wall ties connect the leaves of a cavity wall and feature a pre-compressed acoustic isolation element to minimise the transfer of airborne noise. Available in incremental lengths of 25mm, the new Ancon ACOU range suits cavity ranges of 50mm to 175mm.

www.ancon.co.uk

**David Clouting**

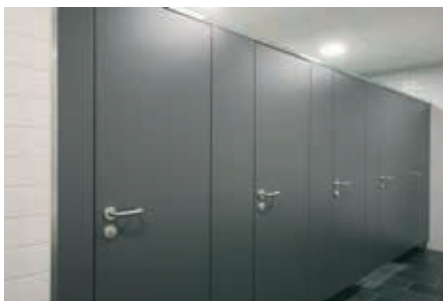
Interior Film from David Clouting is a self-adhesive decorative film that can be applied to almost any room surface, including wood, metal, plaster board, plastics and melamine. It enables walls, doors, furniture, skirting and architraves to be quickly transformed with minimum disruption and at low cost. Interior Film is easy to clean and maintain and is available in a range of designs and finishes.

www.davidclouting.co.uk

**Kaldewei**

On stand S2010 at Ecobuild, Kaldewei will be exhibiting a selection of its latest bathing and shower solutions made from its sustainable 3.5mm steel enamel. Options for low level shower surfaces include matt organic colour finishes, virtually invisible anti-slip and a new model, Scona. For high-end projects, the Meisterstücke collection of baths with seamless enamelled panelling will be on show.

www.kaldewei.co.uk

**Kemmlit**

Kemmlit's Primo F cubicle system finished in graphite grey has been specified for the toilet facilities at German airline Lufthansa's new business class lounge in London Heathrow's new £2.5bn Terminal 2. Primo is a durable, smooth-surfaced cubicle system with doors and walls consisting of a 30mm thick composite construction, bonded on both sides with 3mm thick HPL solid core panels.

www.kemmlituk.com

**Knauf AMF**

Heradesign is a range of sustainable, modern wood-wool based ceiling tiles and wall panels from Knauf which are cost effective and easy to install. Snook Architects recently specified Heradesign to transform a 1980s office block into an aspirational working environment for a firm of solicitors. Visit Stand 408 at the Surface Design Show to see why Heradesign is becoming a favoured choice for specifiers.

www.amfceilings.co.uk

Sign Up

Kieran Gaffney, of Edinburgh practice Konishi Gaffney, gives us three of his specification favourites



FIXED FRAMELESS GLAZING

We specify fixed frameless glazing because it's cheap and easy to build. It also allows a satisfying contrast between windows/doors that open (with frames) and planes of glass that don't. In our Bath Street project we also enjoyed the contrast between the frameless glass and the 600mm thick heavy stone walls. We use 25mm by 50mm by 5mm aluminium frames and insulate behind the metal to avoid a cold bridge. The glass is installed using structural glazing tape and Dow Corning 995 structural silicone.

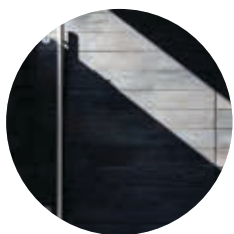
dowcorning.com



ZINC CLADDING

We like the grain in zinc cladding, the pattern of standing seams and the fact that scratches self-heal. We are not confident that the seams work well at low level where dents can look ugly, but in our dormer project, 2 storeys up this wasn't an issue. The material allows for crisp, sharp corners and we rolled the seams flat to emphasise the surface rather than joints. We worked with a brilliant local firm called Artisan Roofing and used Quartz-zinc, the pre-weathered mid-grey finish, as a colour match to the surrounding Scottish slate.

vmzinc.co.uk/



BLACK TIMBER CLADDING

Having lived in Japan we were already sold on Shou Sugi Ban (burnt wood) finish to timber, but we found the process energy intensive, slow and destructive (one supplier reckoned he lost 20% of the boards through warp). We are working on an alternative by grit blasting the cladding to raise the grain and then washing with a transparent black timber stain, eponymously named by Bird Brand in Norfolk. Grit blasting blackens the timber and produces a raised grain texture which allows the grain to show through. We think this will be a simple low maintenance finish.

birdbrand.co.uk/

...Sign Off

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



LIGHT RELIEF

Things have come on in leaps and bounds since John Crapper patented his flushing pan in the 19th century. Not a week passes without some quantum shift in toilet technology: vortex odour eradication, germ genocide with UV light pan cleansing and high tech ceramics treating sticky issues like water off a duck's back. Now Geberit's Monolith Plus range offers an integrated ComfortLight: a recessed luminaire tucked inside the slim cistern that lights up expectantly on your approach. Unlike Kubrick's enigmatic monolith in 2001, it might not embody the universe's knowledge, but you can pose like The Thinker as you ponder life in its warm glow.



A HARD OLÉ'S NIGHT

You know things are on the up when Hard Rock Café rolls into town. Having yielded the crown of notorious excess to Mallorca's Magaluf, Ibiza's settling into middle age by allowing you to pass out at its latest franchise. Not Keith Moon-style though; the only time you'll be in the drink here is on one of the luxury hotel's sunken pool loungers and the closest you'll get to skinnydipping is Rihanna's stage outfits in the lobby. You'll be safe too, as Kentec's Syncro intelligent fire system's installed. But with the Spanish enthusiasm for tobacco, a sneaky fag could find the whole hotel being 'up all night' anyway – even if it doesn't intend to be!



COLD COMFORT

Being born in 60s, kids-and-fridges always sounds scary to me. Those 'Charlie Says' public information films warning of suffocation risk in the old lockable ones sent me screaming from the kitchen every time my mum opened ours. So thank God Smeg's put the fun back into them. Fresh from Downton Abbey's Isis-gate, where terrorist name-links saw the dog killed off, actor Hugh Bonneville is working with pets again. This time it's the bear from Darkest Peru, with Smeg donating £20 to kids' charity Action Medical Research for every Paddington movie fridge bought over Christmas. So instead of killing 'em off, fridges are helping keep kids alive.

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the low energy building system



'discover the **better way to build**'

Thermowall

Thermohouse manufactures an Insulated Concrete Formwork (ICF) wall system that provides building solutions on strip foundations or structural rafts, from the basement to the roof level and is certified to six storeys. The Thermohouse wall system is produced from Expanded Polystyrene (EPS) with galvanized steel bridges that tie the inner and outer leaves together. Once installed, it provides an exceptionally strong shuttering kit for the infill of concrete and reinforcing steel. The standard external wall has a U-value of 0.195 W/m²K and a minimum structural strength of 25N. The unique design of the Thermohouse wall form system provides for substantial unsupported opening spans, corner windows and cantilever extensions, while eliminating cold bridging throughout the structure. The wall form system also incorporates internal load bearing and party wall forms. The wall forms offer a fast and efficient build solution as they can be erected and poured, to full storey height up to 4.0m, in a single pour. The concrete is vibrated to ensure that the pour is consistent and compacted throughout.



Thermofloor

The Thermohouse flooring panel is a non-structural permanent shuttering panel that is produced from EPS and is manufactured in thicknesses of 160mm and 210mm. These panels are manufactured to length, to suit any particular project and can span up to 9.0m and are a lightweight panel weighing 10kgs/m². Each panel is reinforced with two steel galvanised "C" sections running through its full length. These panels can then be easily placed as shuttering for intermediate concrete floors that do not require lifting equipment for the installation. These panels are 600mm wide and allow for the incorporation of reinforced structural "T" beams in the span of the concrete floor at 600mm centres. The connection of the concrete and reinforcing steel between the Thermowall and Thermofloor systems provide for a superb reinforced concrete structure.



Thermoroof

The "Passive" Thermohouse roofing panel (U value = 0.150 W/m²K) is produced from EPS and has two galvanized steel "C" sections running through its length. For traditional A-roofs, mono pitch roofs and gull wing roofs the panels span from wall plate to ridge beam. Thermoroof panels can also form curved roofs and in this case, would span from gable to gable. The Ultimate advantage of the Thermoroof panel is that it provides a warm roof with superb airtight qualities. The Thermoroof panels are manufactured to length, to suit any particular project and require intermediate support at 4.0m centres. These panels weigh 13kgs/m² and are a lightweight panel which can be easily installed without the need for lifting equipment.



Expanded Polystyrene

Expanded Polystyrene (EPS) is made up of 98% air and 2% polystyrene and has a minimum life span 60 years. EPS uses less than 0.1% of global oil as a feedstock, allowing it to save up to 200 times its own resource in thermal energy savings. For commercial construction, EPS applications get the highest possible A-plus summary rating in the BRE Global Green Guide to specification.

INSPIRING A VISION

The Finest Range of Sliding Doors, Pivots and Folding.
Sliding Doors available.



Project: Island Pavilion. Architects: Robin Snell. Photography: Dennis Gilbert - View Pictures.

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