



adf

architectsdatafile.co.uk

11.16

TOTTENHAM COURT ROAD STATION

A first glimpse at the Crossrail station's curves

LAND ROVER BAR HQ, PORTSMOUTH

ADF reports on the sustainable base from which Ben Ainslie hopes to steer America's Cup victory

Cover

Port House, Antwerp

Zaha Hadid Architects' avant-garde extension creates an unmissable new HQ for the Port Authority, page 24

PULSAR

Reliability

Longevity

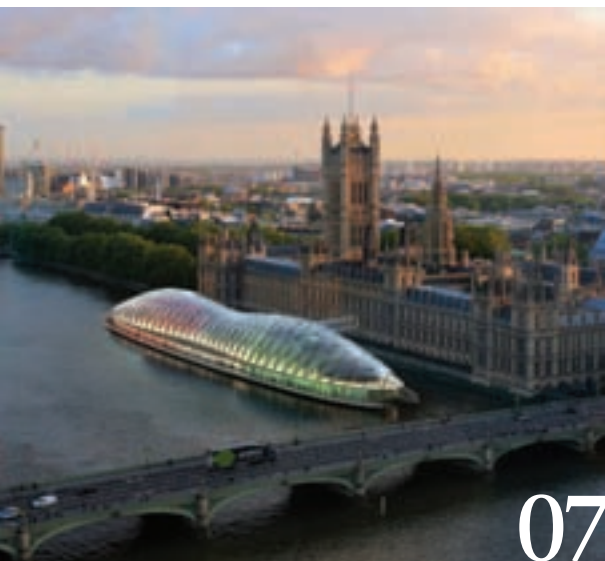
Durability



Did you know 2,592 5mm LED's spanning 21 metres
have been running continuously on our façade for over 100,000 hours?
That's equal to 4,166 days, 595.2 weeks or 11.4 years!



Pulsar - Holder of the World Record for longest continuous running LED Installation



CONTENTS

11.16

NEWS, VIEWS & INSIGHTS

- 04** Industry news & events
- 15** Ask the Architect
Bob Wills of Medical Architecture
- 24** International Focus
- 26** CPD Focus
- 27** Future Watch
3D modelling and virtual reality
- 29** Site Lines
Legal & General's CLT factory
- 31** Appointments & news
- 33** Sleep show preview

PRODUCTS

- 51** Planning & design
- 51** Structural elements
- 53** Groundworks
- 57** External envelope
- 68** Insulation
- 72** Heating, ventilation & services
- 78** Interiors
- 88** Safety & security
- 89** Landscaping & external works
- 91** Classified & directory

PROJECT REPORTS

- 35** **Beneath the streets of Soho**
Stephen Cousins got a sneak peek at the advancing construction work at the Crossrail station at London's Tottenham Court Road
- 42** **A sustainable flagship**
James Parker visited the new headquarters of the British team competing for next year's America's Cup under Sir Ben Ainslie, and found out how the project has already won on sustainability

FEATURES

- 54** **GROUNDWORKS: FLOOD CONTROL**
Designing for better flood control
Stuart Pearce of GeoSmart Information reviews current practice on flood management and the need to take a broader view
- 58** **EXTERNAL ENVELOPE: GLASS & GLAZING**
Structural glazing: Reshaping the modern skyline
Phil Savage of Pilkington discusses the growing importance of glass in designs
- 69** **INSULATION**
Bridging the performance gap
There is a greater focus on insulation across the construction sector as part of the movement to build 'eco', but the industry needs to ensure that projects are built 'as designed' says Recticel's Peter Wilcox
- 79** **BATHROOMS & WASHROOMS**
The convenience of co-ordination
Architects are increasingly looking to tie washroom design into the overall look of a building's interior. Trevor Bowers of Washroom Washroom explores the solutions

adf incorporating **Building Projects** magazine,
architectsdatafile.co.uk and [@architectsDF](https://twitter.com/architectsDF)

Managing Editor
James Parker
james@netmagmedia.eu

**Advertisement Manager/
Joint Publisher**
Anthony Parker
anthony@netmagmedia.eu

Editorial Assistants
Roseanne Field
Jack Wooler
Teodora Lyubomirova

Editorial Coordinator
Sue Benson

Contributors
Norman Hayden
Stephen Cousins

Production Assistants
Mikey Pooley
Shelley Collyer
Rob Duncan
Kim Musson

Sales Director
Lesley Mayo

Sales Executives
Suzanne Easter
Ian Fletcher
Kim Friend
Steve Smith

Designer
Gabrielle Vinyard

**Audience Development
Manager**
Jane Spice

Managing Director
Simon Reed



netMAGmedia Ltd
Cointronic House
Station Road, Heathfield
East Sussex, TN21 8DF

**Advertising &
Administration**
t 01435 863500
info@netmagmedia.eu
www.architectsdatafile.co.uk

Press Releases
editorial@netmagmedia.eu



Annual subscription costs just £48 for 12 issues, including post and packing. Phone 01435 863500 for details. Individual copies of the publication are available at £5 each inc p & p. All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, including photocopying, recording or stored in any information retrieval system without the express prior written consent of the publisher. Although every effort is made to ensure the accuracy and reliability of material published in Architects Datafile, the publisher can accept no responsibility for the claims or opinions made by contributors, manufacturers or advertisers. Editorial contributors to this journal may have made a payment towards the reproduction costs of material used to illustrate their products. The manufacturer of the paper used within our publication is a Chain-of-Custody certified supplier operating within environmental systems certified to both ISO 14001 and EMAS in order to ensure sustainable production. Printed in England

FROM THE EDITOR



In these times when the ‘new normal’ is an uneasy feeling of uncertainty, second-guessing and conjecture about what might be about to transpire in the UK’s economy, it’s refreshing to get a concrete sign of things to come. Even if that is tempered with further consultation periods and questions as to its final nature.

The green-lighting of the third runway at Heathrow is great news for Grimshaw, who have designed Heathrow’s ‘Vision’ for a new terminal, which has the ambitious as well as amorphous goal of being the “most sustainable airport hub in the world.” However while the Conservative Party must now endure a by-election in Richmond triggered by eco-fan Zac Goldsmith’s resignation, the construction industry must endure a further open-ended period of consultation on the scheme as its do-ability is ironed out.

Grimshaw Architects has enticing plans of Eden-project style lightweight materials, alongside the tantalising prospect of a ‘zero carbon’ scheme – which will be a small gesture towards offsetting the extra carbon load generated by the air traffic. Though it sounds a hefty budget, the £16bn of private money for the scheme will only go so far on a complex project such as this – perhaps including a ramped runway over the M25. We have to hope the very firm noises being made by Heathrow on affordability don’t see the carbon goals go the same way as they did in housebuilding.

The images of the scheme so far (see page 13) show large internal atria featuring abundant landscaping, which would be a nice change to the soulless retail-heavy voids that characterise other terminals in the UK. And renewable energy sources which have been mooted would be a further visible way to try and boost the credentials of what is ostensibly a very big means of emitting more carbon.

Unfortunately the good news for construction that Heathrow is going ahead was timed to arrive shortly after the news that the planet has just passed a carbon threshold. According to scientists the Earth’s atmosphere will never again be below 400 parts per million of carbon dioxide. Air travel accounts for 11 per cent of all transport CO₂ so it’s pause for thought that we find ourselves in a position in the UK that we have to substantially add to this, whatever the air industry’s claims that planes are getting ‘cleaner.’

The bottom line is that post-Brexit, the UK is going to do everything it can to drag trade into the UK from all parts beyond Europe, and Heathrow is a fundamental part of that.

James Parker
Editor



On the cover...

Port House, Belgium, by Zaha Hadid Architects
© Hufton + Crow

Go to page 24
www.huftonandcrow.com

STIRLING PRIZE

Caruso St John picks up first prize for London gallery



London-based practice Caruso St John Architects has won the 2016 RIBA Stirling Prize for the UK's best building, the first time the practice has received the award.

The winning project, Newport Street Gallery, is a conversion of three listed Victorian workshops into a public gallery in south London which is used by the artist Damien Hirst.

The architectural practice has been previously shortlisted twice for the Stirling Prize – for Brick House, a west London residential project in 2006, and New Art Gallery Walsall in 2000.

Praising the high quality of the winner's

design at the awards ceremony, RIBA president Jane Duncan said: "Caruso St John have created a stunningly versatile space from a number of linked buildings, with beautifully crafted staircases and superb details including tactile brick facades that blend the street externally and create a succession of wonderful gallery spaces.

"This project exemplifies the best of UK architecture – a highly considered and creative project that brings to life a previously-unloved pocket of the city. I was delighted to present architects with the 2016 RIBA Stirling Prize."

As part of the project, the converted industrial buildings – which were formerly carpentry and scenery painting workshops for West End theatres – were bookended by entirely new pale red brick buildings including one with a saw-tooth roof.

The redevelopment also featured the conversion and transformation of a street-facing railway line in Vauxhall.

Newport Street Gallery was chosen from a star-studded shortlist including Herzog & de Meuron's Blavatnik School of Government at Oxford University and dRMM's conversion of a former housing estate into new residential scheme Trafalgar Place in Southwark. Also shortlisted were Wilkinson Eyre's refurbishment of 1930s building Weston Library in Oxford, Michael Laird Architects & Reiach and Hall Architects' Riverside Campus at the City of Glasgow College, and Outhouse Gloucestershire by Loyn & Co Architects.

PRACTICES

Bradley opens Chelsea office



Irish architect Patrick Bradley, whose Grilagh Water House constructed of stacked shipping containers was long-listed for the 2015 RIBA House of the Year has opened a design studio in Chelsea, south west London.

Bradley has partnered with fellow award-winning designer Bernard McAleenan to run their new office.

Bradley + McAleenan will specialise in high-end bespoke residential designs, extensions and renovations as well as commercial developments, including conservation projects of listed and non-listed buildings.

The duo will lead a full design and consultancy team including 3D visual artists, engineers, interior designers, planning consultants, surveyors and technologists. "Beautiful architecture is not only about the buildings, but about enhancing human lives and emotions for the better," said Bradley.

Give your homes a smarter edge

Luxury homeowners demand smart homes. Our award-winning team can integrate the latest AV, lighting and security systems into your projects at the design stage.

Find out more at www.cyberhomes.co.uk/working-with-architects



Home automation • Lighting control systems • Multi-room audio and video • Home cinema design and installation
CCTV and security • Wired and wireless networks • Occupancy simulation • Climate control

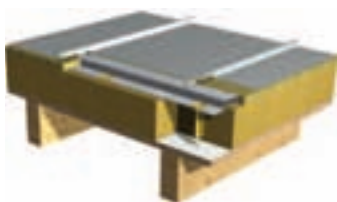


0333 344 3718
hello@cyberhomes.co.uk
www.cyberhomes.co.uk





INNOVATIVE



Vioo. The versatile long-strip solution for modern roof and wall design.



Attractive, contemporary and innovative. This is an exciting time for building design. And with high performing projects, such as Ice Arena Wales (pictured), we're excited to be part of the modern industrial revolution.

As a UK manufacturer with a culture of innovation we're continually developing and refining our roof and wall products to meet the changing and challenging design requirements facing architects and designers.

Vioo is an exciting roof and wall product that transcends industrial cladding to provide a flexible, high performance solution that is visually impressive. Vioo can combine exceptional thermal and acoustic efficiency with trusted fire performance and minimal environmental impact.

A culture of innovation is present throughout our supply chain, with Colorcoat HPS200 Ultra® and Colorcoat Prisma® pre-finished steel from Tata Steel being highly recommended for Vioo roof and wall construction. These Colorcoat® products come with the Confidex® Guarantee for the weatherside of industrial and commercial buildings, offering extended cover for up to 40 years. Colorcoat® products are certified to BES 6001 Responsible Sourcing standard.

If you're looking for innovation, discover Vioo.

EUROCLAD

Euroclad Limited · Wentloog Corporate Park · Cardiff · CF3 2ER
029 2201 0101 · www.euroclad.com · [@eurocladuk](https://twitter.com/eurocladuk)

 **confidex**

Colorcoat HPS200 Ultra, Colorcoat Prisma and Confidex are registered trademarks of Tata Steel UK Limited.

CONCEPTS

Gensler floats idea for pop-up Parliament



A modular, relocatable UK parliament has been revealed by San-Francisco based architectural practice Gensler, with claims it could save the taxpayer millions.

The firm is proposing to build a 250 metre facility along the Thames' north bank adjacent to the Palace of Westminster. Gensler's proposal comes in response to plans for a refurbishment of the Houses of Parliament, during which MPs and Lords will have to be relocated for about six years.

Gensler's 'pop-up' scheme proposes an 8,600 m² wooden-framed structure inspired by Westminster Hall's hammer-beam roof, which will stand on steel platforms.

The firm says the whole facility can be built in less than three years in UK shipyards and floated along the Thames.

Duncan Swinhoe, regional managing principal at Gensler, added: "The scheme not only provides a fitting short term solution to the relocation issue, it also provides some exciting long-term opportunities.

"Once the refurbishment of the Palace is complete, the modular structure could be relocated and adapted to provide a permanent legacy," he said.

The refurbishment proposals for the Houses of Parliament require total decantation of the building, and the challenge has been to find a suitable location within Whitehall that can accommodate Parliament efficiently and cost effectively.

Gensler claims the project could save the British taxpayer £1.8bn compared with alternative solutions, and that its proposal will not interrupt the navigable channel along the centre of the river.

The chambers of the House of Commons and House of Lords will be replicated to the same dimensions in Gensler's scheme to ensure familiarity with the aim of reducing disruption to MPs and Peers. Supporting committee rooms, as well as The Royal Gallery and Central Lobby, will also be reproduced in the temporary structure.

A "light trough" will run around the base of the chambers providing a glow that will illuminate the building at night and the space between the outer bubble and inner box – called the Inner Deck (pictured) – will be filled with plants, said Gensler. Skylights will ensure the chambers receive copious amounts of daylight whilst main-



Gensler's scheme proposes a wooden-framed structure inspired by Westminster Hall, on steel platforms

taining the privacy and safety of members.

A basalt stone walkway will run between the structure's exterior and the chambers, which will be clad in white painted metal panels that are "both cost effective and understated," said Gensler. The mezzanine will be hung with steel tension rods from clear space beams above to enable the space to be free of columns. Further enhancing the airiness of the interior will be perforated acoustic wood panels finished in semi-gloss white lacquer.

Philippe Paré, design principal at Gensler, commented: "It is important that our concept is still recognisable as Parliament, but we wanted to give it a modern twist. Building from the ground up creates an opportunity to incorporate workplace design principles that are proven to improve productivity, well-being and collaboration, and dialogue can occur."

He added: "Any solution enabling a decant will use public funds, so we have focused on restraint and efficiency."

THE SPECIFIER'S
GUIDE | to ceramic tiles
and calibrated
natural stone

www.specifiersguide.co.uk

Go online and subscribe to get your FREE copy

The Specifier's Guide to Ceramic Tiles and Calibrated Natural Stone offers architects, interior designers and other construction professionals a comprehensive guide to the technical and aesthetic properties of ceramic and natural stone tiles.

Award-Winning Partnerships

Working closely with architectural practices across the UK, our rooflights are regularly specified on award-winning buildings.

The Rooflight Company.
Helping to create
award-winning environments
for over twenty years.

Call us today on **01993 833108** or visit
www.therooflightcompany.co.uk

“

We specified the Rooflight Company because we were impressed by the attention to detail and quality of construction of their rooflights. We worked closely with their design department to develop a rooflight that would dovetail with the rest of our design.

**Buddy Haward,
Burd Haward Architects**

”

the
Rooflight
Company

Bespoke openable Trapezoidal Rooflights at the RIBA award-winning Mottisfont Visitors Centre.

EVENTS

TRAINING

Advanced Conservation Course
08 December 2016, Oxford
www.architecture.com/WhatsOn

The Building Regulations challenge: achieving compliance considering the latest rules and guidance
08 December 2016, London
www.architecture.com/WhatsOn

EXHIBITIONS

Soak, Steam, Dream
Now - 28 January 2017, London
www.rocalondongallery.com/en/activities

Carl Laubin - 'A sentimental journey'
Now - 16th December 2016, London
www.plusonegallery.com/exhibitions/

Shaping London's future workspaces
Now - 17 December 2016
www.newlondonarchitecture.org/programme/exhibitions

Origins: A Project by Ordinary Architecture
Now - 17 January 2017, London
www.royalacademy.org.uk/exhibitions-and-events

TRADE SHOWS

Architect@work
25 - 26 January 2017, London
www.architect-at-work.co.uk

Surface Design Show
7 - 9 February 2017, London
www.surfacedesignshow.com

KBB
04 - 07 March 2017, Birmingham
www.kbb.co.uk

Ecobuild
07 - 09 March, London
www.ecobuild.co.uk

The UK Concrete Show
15 - 16 February 2017, Birmingham
www.concreteshow.co.uk

Vision
06-07 June 2017, London
www.visionlondon.com

CULTURAL BUILDINGS

Natural History Museum's new cloister entrance gets go-ahead

Proposals to transform the grounds of the Natural History Museum by Niall McLaughlin Architects and Kim Wilkie have been given go-ahead by the Royal Borough of Kensington & Chelsea.

The project will extend the gardens around the museum, reducing queues and connecting the fragmented outdoor spaces into three zones – the Square, the Eastern Grounds and the Western Grounds.

They will form “a living connection” between the natural world and the museum’s indoor research and collections.

The Square, at the corner of Cromwell Road and Exhibition Road, will be the entrance to the site. It will be joined by a below-grade cloister introducing a new entrance into the museum from the South Kensington pedestrian tunnel for an accessible entry with views of the Waterhouse building’s eastern gable.

The Eastern Grounds will house a “geological timeline” landscaped to create a journey back in time from the origins of life to present day. It will include a duplicate of the Diplodocus seen at the museum’s entrance.

The Western Grounds will expand the current wildlife garden to cover a space three times its current size. It will create a sustainable new habitat where visitors will



be able to walk among plants and animals seen in the cities today.

A new activity centre for youngsters will also be launched.

The competition-winning scheme is part of the on-going transformation of the museum as set out in the Strategy to 2020.

BOOK

Legacy of Spanish architectural duo explored in new book

A research project on the design and planning work of Spanish architects Inaki Abalos and Juan Herreros has been published in a new book.

“AP 164: Ábalos & Herreros” by Giovanna Borasi is the first book to draw on the firm’s extensive archive, now held at the Canadian Centre for Architecture.

With contributions from three architects and architectural firms, two of whom had worked with Abalos &

Herreros, the book offers insight into over 160 projects from 1985 to 2008 including sketches, slides, models, text documents, collages, and drawings.

The contributors’ essays explore topics including the architects’ fascination with industrial architecture and their innovative visions for landscape architecture.

Inaki Abalos and Juan Herreros, both still practicing in their own firms, established their Madrid office in 1984 and worked together until 2008.

PROJECT

Sadiq Khan explores scope for Dagenham film studios



London Mayor Sadiq Khan has announced plans to build the capital's first new TV and film production studios for decades on an industrial site in Dagenham, Essex.

The Mayor has teamed up with public agency Film London, the London Local Enterprise Panel and the London Borough of Barking and Dagenham to commission a fea-

sibility study and business case. The process will be led by Film London in close consultation with the film and television industries.

Approximately three-quarters of the UK's film industry is based in and around London, and last year £1bn was attracted to the city in inward investment from international film production.

NEWS BYTES

Visit the website www.architectsdatafile.co.uk and enter the reference number for more information

Green light given for major Chester City Centre overhaul
Ref: 38288

BDG architecture + design complete new office design for maxus bringing fun, creativity and a new way of working
Ref: 16698

CRL shines the spotlight on the winners of its Venturous Builds campaign
Ref: 32752

Faith communities invited to enter their building for the John Betjeman Award 2017
Ref: 35614

Finalists announced for Solent Design Awards
Ref: 75994

PRIME OAK
www.primeoak.co.uk

Call For Our New Brochure!

THE FINEST OAK FRAMED BUILDINGS

MADE IN ENGLAND 01384 296611 info@primeoak.co.uk www.primeoak.co.uk

GARAGES | GARDEN ROOMS | ORANGERIES | HOME OFFICES | CONSERVATORIES | BARNS | STABLES



MAGNIFICENT INTERACTION OF DESIGN AND SETTING

Modern, minimalist first class design provides maximum transparency with outstanding safety. Reinforcing any masterpiece of architectural design and build, Easy Glass® MOD 0763 offers you the best of two worlds. Thanks to its moveable glass pin, it can be used as either a glass clamp or a glass adapter.

For information, to request a visit or to arrange a CPD presentation, please call: 01782 711 676 / 0800 781 4245 or email to sales.uk@q-railing.com.



AIRPORTS

Heathrow expansion cleared for take-off

The Government has given the go-ahead for the project to expand Heathrow Airport including a third runway, which gives the green light to the approved scheme by architect Grimshaw.

A £16bn privately-funded project will progress the scheme following a consultation period. The architect was selected after an assessment of a four-practice shortlist including top of the UK's top names Zaha Hadid Architects, HOK and Benoy.

Grimshaw's appointment earlier this year was down to the firm's "visionary concept designs, which pushed the boundary of what an airport could and should be, but also for unique ideas around how Heathrow could be expanded in a sustainable but affordable way," said Heathrow Airport.

Partner at Grimshaw Jolyon Brewis described his reaction to the Government's announcement: "We look forward to working with Heathrow on the new development, delivering their bold vision and working towards their ambitious and achiev-



able target of the most sustainable airport hub in the world."

The Government commented that when the airport expansion is completed in 2025 Heathrow "will better connect the UK to long haul destinations across the globe and to growing world markets," boosting trade in the wake of the vote to leave the EU.

The Civil Aviation Authority (CAA) will

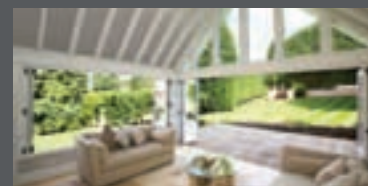
work with Heathrow Airport and airlines on the detailed design and project costs to "ensure the scheme remains affordable," the Department of Transport said. It added in a statement: "The Government expects the industry to work together to drive down costs to benefit passengers. The aim should be to deliver a plan for expansion that keeps landing charges close to current levels."

FREE SITE SURVEY NATIONWIDE
50 YEAR ACCOYA TIMBER WARRANTY



MONTPELIER

GARDEN ROOMS • ORANGERIES • WINDOWS • BI-FOLDS



Accoya's Key Features:

- Dimensionally Stable
- Outstanding Durability
- Perfect for Coating
- Sustainably Sourced

From the makers of



Garden Rooms, Orangeries, Windows & Bi-Folds

Call: 01384 279933 - Email: info@montpelierjoinery.com - Visit: www.montpelierjoinery.com





From balustrades, columns and porticos to pier caps, window surrounds and custom designs – our high specification cast stone designs provide affordable elegance to any project.

Browse our unrivalled collection **online** or **call** to request a catalogue.



HADDONSTONE

haddonstone.com
01604 770711



“THE FINEST TRADITIONAL
**HANDMADE, WIRECUT &
PRESSED BRICKS**
FOR RESTORATION, RENOVATION
AND NEW BUILD ”

REGIONAL FOCUS

The leading supplier of handmade bricks with specialist products to match traditional brickwork across the UK for size, colour and texture

BRICK MATCHING EXPERTISE

A highly personalised service to assist architects and specifiers with selecting the right product for each project

TAILOR-MADE SOLUTIONS

Custom blending of ranges and bespoke weathering to achieve the perfect finish

IMPERIAL BRICKS • METRIC BRICKS • PAVERS
SPECIALS • BRICK SLIPS
BRICK MATCHING • BESPOKE BLENDS



IMPERIAL
handmade bricks



01952 750 816
sales@imperialbricks.co.uk
www.imperialbricks.co.uk

ASK THE ARCHITECT

Norman Hayden poses the questions to Bob Wills of Medical Architecture



Bob Wills

WHY DID YOU BECOME AN ARCHITECT?

I was going to be a furniture designer and maker. But, in making things, I became intrigued how materials can be shaped to form an enclosure and then affect people's experience. Aged six, my participation in making a house in Bolgatanga, northern Ghana, was a formative experience where I learned about the plastic arts through working with muddy clay and later, playing with molten wax. Changing and transforming solids and liquids are also a common theme. Defying gravity was something I was keen on, too – with sticks (dens and tree houses) and stones (dry stone walls). And there was Lego, of course. I had also read *Small is Beautiful* by E.F. Schumacher at an impressionable age: I could see that the status quo was not the only way. All in all, architecture seemed to offer an opportunity to pursue a positive alternative.

WHAT DO YOU LIKE ABOUT IT MOST?

Making a qualitative difference to the built environment, especially as a specialist healthcare architect, where a therapeutic environment can most tangibly affect someone's well-being. When it goes right, it is very gratifying. We recently completed Clock View Hospital, north Liverpool. It's a psychiatric hospital placed within the heart of a community rather than at its edge. It deliberately de-stigmatises mental health by making access to, and discharge from, the hospital that much easier for a local popula-

tion. We designed a building with achievable thresholds to recovery. A great deal is done to bring this about – through extensive soft landscaping, the views, and access.

WHAT IS YOUR PROUDEST ACHIEVEMENT AND WHY?

I don't think I have one yet. I am still trying. There are little bits of projects that are delightful and some whole projects that come close. Before joining Medical Architecture I was a partner at Penoyre & Prasad LLP and while there, worked on some projects that I was proud of. One was the Millennium Centre in Dagenham. It was a fun, Millennium Commission-funded project for the local authority. It had a wonderful client – Jan Britton – who pushed the 'what if' and 'why not' agenda to the limit. The building had to be didactic about treading on the earth lightly. This was at a time at the end of the last century before greenwash became prevalent, when it felt like we were setting the agenda trying to find a green solution in a very grey world.

WHAT'S YOUR CURRENT BIGGEST CHALLENGE?

The race to the bottom with fee percentages. Winning work that is interesting to do, and is actually deliverable for the fee, is a constant challenge. We have great committed staff with superb skills and rely on them enormously to keep on making it happen. We do a lot of bidding in the public

sector – inescapable as a UK-based healthcare specialist firm – and the hoops we have to jump through are getting smaller and more misshapen than ever. Getting on to frameworks is tough; and, once you're on them, competing again at every stage can be frustrating. That said, our global reputation is such that we do still occasionally get a phone call out of the blue that leads to great things.

WHAT SINGLE CHANGE/INNOVATION WOULD MAKE AN ARCHITECT'S JOB SIMPLER?

Architects actually love solving puzzles: the more complex the better. Simple is boring.

WHAT IS YOUR FAVOURITE MEDIUM?

A stick in the sand or a pencil stub on the back of an envelope. Then again, a felt tip on anything. I find this is the fastest way to communicate and problem-solve. Deeper analysis and testing with more sophisticated tools can follow on, rather than lead the process of resolving an idea. A blue-leaded clutch pencil remains a favourite.

WHAT CAN WE LEARN FROM FOREIGN ARCHITECTS?

Architecture is a global profession. When I worked in France and India I was a foreign architect myself. We can all learn so much from each other, wherever we are from, as we bring our own perspectives. You learn to take nothing for granted. I had the good fortune to meet and work with a number



Global partnership: Glenside, Adelaide with Swanbury Penglase Architects

© Sam Noonan



Therapeutic environment: Clock View Hospital, Liverpool

Learning to respect other people's time zones is key, especially when steaming through production information jointly with an Australian partner office

of so-called 'foreign' architects. There's a general sense that we all come from everywhere and enjoy the 'other-ness' of each other. At Medical Architecture we often partner architects in other countries. Learning to respect other people's time zones is key, especially when steaming through production information jointly with an Australian partner office. You have to be careful to understand which day it actually is and be prepared to start early and/or finish late!

WHAT WILL BE THE NEXT BIG THING IN THE INDUSTRY?

Definitely graphene: that's what a lot of people think, anyway. It is one of those things that always seems to be five to 10 years away from being commercially viable and yet is still packed with potential. I have more of a wish-list than a prediction in answer to this question. I think that materials science will have to move the Cradle-to-Cradle (C2C) agenda on to a position where we no longer poison the planet. Why is it so difficult to engineer polymers to be nourishing rather than toxic? Is PVC the next asbestos as some people claim? Will there be a new way of recovering the microscopic particles being ingested by marine animals? Steven Groak

wrote in *The Idea of Building* that buildings are temporary reservoirs of matter that eventually flow into the sea. It is true. We need to re-think this.

HOW DO YOU SEE THE ARCHITECT'S ROLE CHANGING?

We will become designers of processes that yield a long-term beauty, rather than the designers of things that are beautiful just when the photographs are taken. Maurice Mitchell is professor of architecture of Rapid Change and Scarce Resources at the CASS School, London Metropolitan University, and a friend, mentor, tutor and ex-employer. I think he and his colleagues are pointing a new generation of architectural thinkers in a good direction. They are pointing them towards a role as explorer and enabler – solving everyday problems. The architect's role is changing for sure and we need to remain agile. There are as many ways of being an architect as there are architects.

ARE THERE LIMITS TO THE PART TECHNOLOGY CAN PLAY?

No – although, given the infinity of possibility, I do wonder what part regulation will play. As more and more seems possible, there is a counter-balancing need to regulate the excesses that may occur. I come back to the two questions I always ask myself when designing: "Is it necessary?" and "Is it sufficient?"

I recently attended a RIBA event where the offsite school presented an overlay of the RIBA Plan of Work 2013 – Designing for Manufacture and Assembly (DfMA). We have been doing this at Medical Architecture for a few years now, led by contractors – or 'providers of engineering solutions' as they now prefer to be known. We have to imagine that buildings might soon be delivered by DHL or FedEx and assembled by robots and drones. Sending it back for a refund because 'it doesn't fit' or 'you don't like the colour' could be expensive. So, we'll need to design it right first time or think about throwaway (non-toxic) buildings and easily-recycled buildings. There is another question I often ask myself: "Just because you can do it, should you?"

WHAT ARE YOUR HOPES FOR THE NEXT 12 MONTHS?

Having good, exciting work to carry out and puzzles to solve. Who could ask for anything more? ■

THE ART OF HEATING



Rococo I Column, Hammered Gold

For Stockists Contact: T: 0808 129 2224 | E: sales@carron.uk.net | W: www.carron.uk.net

AWARDS

Winners of Restaurant and Bar Awards 2016 revealed

A 19th century gymnasium-turned-restaurant, an industrial-inspired wine bar, a timber-clad kitchen and a vintage London eatery are among the UK winners at this year's Restaurant and Bar Awards.

Conran & Partners won Best Overall Restaurant and Best UK Restaurant for their revamp of the German Gymnasium in King's Cross into a D&D eatery. The architects claim to have created "a Bauhaus version of a European Grand Cafe" (pictured right) by transforming the former first-floor offices of the Grade II brick sports hall into a gallery allowing views from the ground floor dining area to the timber-framed truss roof.

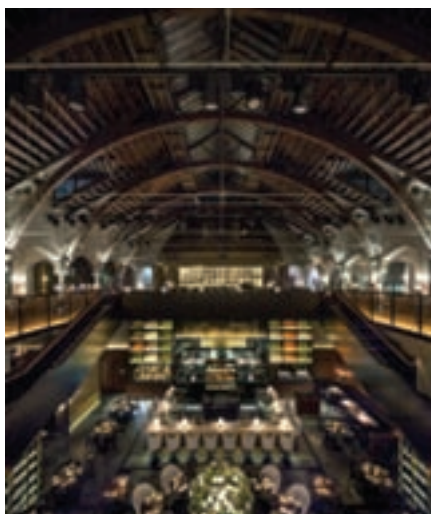
Finch Interiors' Vagabond Wines – a wine 'enoteca' (a hybrid bar and shop) in the Old Spitalfields Market – won the Best UK Bar prize. Judge Emma Lindsay of IHG praised the design of this graffiti-ridden venue as "well executed".

Barcelona-based Blue Wave cocktail bar (pictured right) was named Best Overall Restaurant and Europe Bar. El Equipo Creativo created a ceramic-clad interior as a direct reference to Mediterranean architecture and to develop a "wrapping sensation" across the lounge, covered in colours from white to deep blue.

This year's UK Standalone Restaurant is Tattu in Manchester designed by Edwin Pickett. "Such a refreshing alternative to the restaurants I encountered when I lived in Manchester. Looks glamorous, sophisticated and fun," said judge and Telegraph travel editor John O'Ceallaigh.

The Refinery Regent Place was named Standalone Bar or Club, with design and architecture practice Fusion DNA responsible for the industrial design of the venue.

Other UK winners include Haptic's lifestyle store, Archive Homestore & Kitchen in Ramsgate's royal harbour (Restaurant or Bar in a Retail Space). The architects transformed a former military arch into a light timber-clad eatery and shop (pictured top right) using materials crafted by a carpenter to ensure "immaculate level of craftsmanship". "The simple



The Restaurant and Bar Awards is a globally recognised competition dedicated to the design of food and beverage spaces

controlled application of the program elements allows the spatial complexity of the volume to reside harmoniously," said Carl Kernodle of Hyatt Hotels.

International highlights of the awards

included the British-inspired Hong Kong luxury lounge bar Foxglove by NCDA (Asia Bar award); Cadena Asociados' El Moro, a Mexico City churros eatery clad in white mosaics – inspired by sugar – with blue symbols (Identity award) and WhiteRhino's industrial-oriented concrete and timber design for Tehran restaurant Jo Grilled Food (Middle East & Africa Restaurant).

The Restaurant and Bar Awards, which this year attracted 1000 entries from 70 countries, is a globally recognised competition dedicated to the design of food and beverage spaces.

Milan Museum. Image courtesy
of Pino and Nicola Dell'Aquila.

CHOSEN TO PRESERVE

Housing work dating back 5,000 years, The Egyptian Museum in Turin holds one of the world's largest collections of Egyptian artifacts. Keeping these treasures safe for generations is Pilkington **Optiview™** Protect OW, an anti-reflective, anti-vandal glass.

Because when you want glass you can trust, there can only be Pilkington.

To find out more, visit
www.pilkington.co.uk



PILKINGTON

BOOK

Josef Frank's designs explored in new book



A new book has been published tracing back the designs of one of Europe's most significant architects.

In "Joseph Frank – Spaces", Mikael Bergquist and Olof Michelsen compile Frank's designs for single family homes and investigate the influences that shaped his work.

The book reveals previously unpublished images and plans as the authors look at Frank's architectural concepts of movement and his use of stairs in residential buildings.

The book offers an in-depth examination of six of his houses along with images and plans and a close analysis of their specific characteristics.

A complete catalog of Frank's single-family houses rounds out the book.

TRANSPORT

Manchester pilots "bus shelter of the future"



Manchester commuters can now charge their phones, browse the web or get traffic updates at an interactive bus shelter near the Piccadilly rail station.

The shelter, created by Aurel Design Urbain and graphic designer Peter Saville, has a wide green roof and wooden ceiling and features charging outlets, touch displays showing news and traffic information and free Wi-Fi for passengers.

The £300,000 shelter, developed by JCDecaux and RATP and Transport for Greater Manchester, was funded through a Department for Transport ring-fenced capital grant aimed at reducing

carbon emissions, congestion and pollution and increasing active travel. The modular shelter can also be moved and adapted to serve different locations in Greater Manchester.

Helena Kavanagh, managing director of JCDecaux UK's street furniture division, said: "Bus shelters can do so much more than simply protect waiting passengers from the elements, and with the technological means now at our disposal they can become an integral part of tomorrow's connected cities, harnessing technology to make shared environments safer, smarter and more environmentally friendly."

AWARDS

Three refurbis vie for structural concrete award

Three projects are in contention for the 2016 Structural Concrete Alliance award for repair and refurbishment.

They are Sika's restoration of Poplar Baths in London, CCL (GB)'s strengthening of the National Grid's Isle of Grain site near Rochester, and the refurbishment and strengthening of the Woodhouse Tunnel in Leeds by Volkerlaser.

Sika provided materials for the concrete and structural repairs of the Grade II

former public baths in Tower Hamlets, which were transformed into a modern leisure centre.

CCL (GB) replaced the reinforced concrete bund wall that surrounds the gas tanks and prevents leaks in case of any rupture. The repairs involved designing special anchors capable of restraining bursting forces of 223 tonnes per anchor along with safe detensioning of the existing wire from around the bund wall via a post-tensioned

assisted strap restraintment system.

Volkerlaser's strengthening of the twin bore four-lane Woodhouse Tunnel in Leeds involved the development of a small structural tie allowing smaller drilled holes and reducing phasing requirements, which saved time and money.

The winner will be announced at the Concrete Society Awards Dinner to be held at the Grosvenor Hotel in Park Lane, London, on 17 November.



Firing imaginations for over 35 years

The UK's most comprehensive range of high quality stoves and fireplaces

WOODBURNING | GAS |  | MULTI-FUEL | ELECTRIC

stovax.com

Flat is back



Carl
Front End Operator

Clever solutions from our site to yours.

Our new flat roofing solutions meet the standards of integrity and performance you've been demanding. Carl and our operational team will be keeping a tight watch on things, right from the frontline. Plus, like all Celotex products, they come with personal support and aftercare.

#flatisback | celotex.co.uk

Flat Roofing
...by Celotex

Celotex
SAINT-GOBAIN

UK CONSTRUCTION WEEK

The importance of collaboration: under scrutiny at UK Construction Week

Attendees at the recent industry-wide show UK Construction Week saw a glimpse of a new industry survey conducted by the RIBA which promises to lift the lid on clients' and contractor clients' opinion of architects and the service they provide, according to Nigel Ostime of Hawkins\Brown Architects, chair of the RIBA Client Liaison Group, who initiated the survey.

He told the audience in a session on collaboration in the supply chain that one of the key findings from the soon to be published 1000-response report (the first ever of its kind to be commissioned) is that "clients really like the product – the building – but think the way we get there – the process – can be improved."

He added: "In particular, we need to understand the drivers for contractors better – it is a very different conversation we have with clients between stages one and two and stages and four and five."

Ostime said that it was important to try and understand not only clients' "success factors" but also how they perceived value: "What we understand as value is not necessarily what clients think it is." He told the audience that when it comes to successful collaboration, architects "have to be prepared to learn lessons from their mistakes." He stressed the need for strong leadership in making the necessary changes happen.

Asked whether regulation was the answer to improve collaboration in the industry, Eddie Weir, vice president (practice) of CIAT, said: "It's very difficult to try and regulate collaboration – it's something we have to achieve ourselves."

Julian Francis, director of policy and external affairs at the Association of Consultancy and Engineering warned that the "artificial barriers in the supply chain create mistrust," and Hawkins\Brown's Ostime agreed that "the form of procurement can get in the way."

Gavin Dunn, director of building performance at BRE, commented that while there were a "lot of opportunities to drive positive outcomes" in the supply chain,



"regulation can only go so far – we need much more collaboration."

He gave the example of the fact that the banking world is starting to look at property as "just another big asset class" which is fostering a long-term approach which is more about "best value, not lowest cost." Weir added a note of caution however: "you can only put into a job what you're being paid to."

Nigel Ostime, commenting on the importance of BIM as a key driver for collaboration, said that "focusing on BIM is almost the wrong thing – we need to look further ahead. Computing power is increasing exponentially and our challenges within the supply chain will shift to ones we don't even recognise yet."

Housing crisis

In a seminar at the event looking at housing delivery challenges post-Brexit, past president of the RIBA Stephen Hodder told the audience: "The volume house-builders can't deliver on the crisis. We need much better use of public land, and much greater transparency between developers and local authorities."

In the same session, group chief executive of Places for People David Cowans told delegates that the challenge was tougher than had been thought: "We think that because of the one million homes shortfall over the past decades we actually



What we understand as value is not necessarily what clients think it is

Nigel Ostime, Hawkins\Brown

need to build 350,000 homes a year. We need more diversification in the market – of tenures, typologies and stock."

In terms of the challenge of delivering the numbers of social housing required, Cowans said that in other countries "much more flexible" tax models were employed, to provide incentives, whereas in the UK, "the Government thinks that social housing should be delivered by the Private Rented Sector."

The skills shortages in the industry were also under the spotlight at UK Construction Week. In a lively seminar, Mike Potter, chair of the Considerate Constructors Scheme (CCS) said that the sector was seen as "the industry of last resort" when it came to career choices, and that there were only 8,500 apprenticeships in construction in 2014, compared with 85,000 in business and admin sectors.

Angela Brady, architect and past RIBA president told delegates: "We need to hang onto our European colleagues, because we will be devastated by Brexit."

INTERNATIONAL FOCUS

Showcasing the latest projects from around the world. Visit the website www.architectsdatafile.co.uk and enter the reference number for more information



PORT HOUSE, BELGIUM ZAHA HADID ARCHITECTS

Zaha Hadid Architects extended a derelict fire station in Antwerp, Holland to develop a striking new HQ for the city's port authority. The architects' design pays homage to the history of the site and the surrounding area and buildings.

Surrounded by water, the new extension's facade is a glazed surface that ripples like waves. Triangular facets allow the apparently smooth curves at either end of the building to be formed with flat sheets of glass. They also facilitate the gradual transition from a flat facade at the south end of the building to a rippling surface at the north.

Ref: 85944



BEIRUT MUSEUM OF ART, LEBANON HW ARCHITECTURE

Lebanese-French architect Hala Wardé and her architecture practice HW Architecture won an international design competition for BeMA, Beirut Museum of Art in Beirut, Lebanon. A 400-foot tower offering views across the city will be the centrepiece of a project that will be built at a "symbolically charged site which once marked the dividing lines in the Lebanese civil war". The development will also include a public garden and landscaped promenade to accommodate site-specific installations and artworks surrounded by lush vegetation, as well as an amphitheatre for performing arts. The museum design reflects a careful consideration of connections to the campus and to the larger urban surroundings.

Ref: 47510



GALA AVENUE WESTSIDE, SHANGHAI BENOV

Benov has revealed its design for 'Gala Avenue Westside', a mixed-use scheme set within the major Lujiazui Harbour City development. Appointed as the masterplanner, architect and interior designer, Benov will deliver the full scope for the scheme due to complete in 2018. Consisting of a 100 m office tower and 12 interconnected retail hubs which will span two to three storeys in height, the project will combine high-end shopping, entertainment, and public space alongside commercial spaces.

Ref: 40624



AYIA NAPA MARINA, CYPRUS SMITHGROUPJJR

This £190m mixed-use scheme, now under construction, will boast 190 luxury apartments and 29 villas in two twisting towers raising over 100 metres in height. Both towers have T-shaped plans that twist approximately 1.6 degrees per floor, rotating west to east as they ascend to take advantage of the panoramic views of the coastlines. The apartments are shaped to ensure that all living spaces are oriented towards the water and beaches while open plan designs maximise daylight. Residents and visitors will also benefit from a 600 berth full-service marina and boatyard and a mix of retail, waterfront dining and lifestyle amenities. The scheme is set for completion in 2021.

Ref: 12570



TOHA TOWERS, TEL AVIV, ISRAEL RON ARAD ARCHITECTS

This Tel Aviv city centre office scheme is set to deliver the tallest building in Israel. Ron Arad Architects designed two glazed office towers of 28 and 63 storeys respectively creating 160,000 m² floor space plus three levels of commercial areas and a landscaped public space. The towers are raised on legs containing technical plant areas which makes it possible to facilitate roof plazas. Construction of the 60,000 m² phase one building began in 2013 and will complete in late 2018.

Ref: 48482



AGA KHAN AWARD FOR ARCHITECTURE

The winners of the Aga Khan Award for Architecture have been announced. The prize, which is given every three years, is considered to be one of the most important international awards. An independent Master Jury selected a shortlist of 19 projects from 348 nominations. One of the winners was The Hutong Children's Library and Art Centre, Beijing, China (pictured top) designed by ZAO/standardarchitecture. A nine-m² children's library built of plywood was inserted underneath the pitched roof of an existing building. One of the former kitchens was redesigned into a six-metre-square miniature art space made from traditional bluish-grey brick, under a big Chinese 'scholar tree.'

Another winner was Issam Fares Institute for Public Policy and International Affairs, Beirut, Lebanon (pictured bottom) designed by Zaha Hadid Architects. The building had to fit into another stage in the implementation of a master plan for American University of Beirut, whose upper campus overlooks the water, and whose lower campus is located on the seafront. ZHA responded to the project brief by producing a design that significantly reduces the building's footprint by "floating" a reading room, a workshop conference room and research spaces above the entrance courtyard in the form of a 21-metre-long cantilever in order to preserve the existing landscape.

For the full winners list go to www.architectsdatafile.co.uk and type in

Ref: 93913

CPD FOCUS

The latest CPD courses, seminars and documents for architects

ACCESS FOR ALL



Architects and construction professionals can use Laidlaw's high quality RIBA-approved material to get ahead with their careers. And because Laidlaw is an approved member of the RIBA CPD Providers Network, it means that any of the four modules available are worth double the points under the RIBA CPD system. *Access for All*, which is an approved core curriculum subject, focuses on the requirements of the Equality Act and covers topics including door opening force, accessibility and performance criteria. Each module comprises a 50-minute seminar, working models, literature and handouts. 01902 600400
www.laidlaw.co.uk

TWO NEW RIBA ASSESSED CPD SEMINARS FROM COMAR



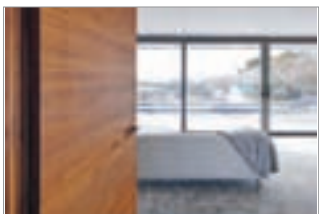
In two RIBA assessed seminars, Comar outlines: *Stand & Deliver: a Study of curtain Walling* – the design of curtain walling, it's properties and how it is used by specifiers. This seminar aims to offer an understanding of the points of Hll in the NBS specification system, and how best to make use of it. *Designing functions & reliability into entrances* – the issues that influence the function of main entrance design and technology. This seminar aims to offer an understanding of how user expectation influences door design and links this with hardware selection, entrance configuration and floor finishes. 020 685 9685
www.comar-alu.co.uk

SOLID SURFACES CPD SEMINAR



CD (UK) Ltd, the exclusive UK distributors of Corian® – Seminar structured as follows: Development of Solid Surface from 1960s to present day; Raw materials, adhesives and composition; Solid Surface characteristics and benefits; Manufacture: Sheet, Matrix sheet and shape product; Comparison of characteristics; From production to fabrication process; Properties of Solid Surface; Architectural and Design possibilities; Current applications; Environmental considerations; Support, warranty and service infrastructure. 0113 201 2240
www.cdukltd.co.uk

URBAN FRONT NEW WORKSHOP TOUR



The Workshop Tour from Urban Front will run for just over an hour and incorporate the following Learning Outcomes: A good understanding of how a contemporary hardwood door is manufactured; a better understanding of the types of hardwood and their benefits; a good ability to interpret CADs used for manufacture; a better ability to specify doors correctly; an understanding of the various issues related to making doors. The company also runs regular CPD's on specifying Hardwood Timber doorsets. 01494 778787
www.urbanfront.co.uk

HOLE TRUTH ABOUT VENTILATION



Engineers have to take into account a dizzying array of factors when deciding what ventilation design to select within a building these include: energy efficiency, indoor air quality, aesthetics, the presence and type of contaminants, the impact of potential noise pollution and weather effects. All this in tandem with an airtight building envelope means there is a lot more to specifying ventilation louvres than simply working out aerodynamic performance and keeping out the rain. That's why Naco offer a CIBSE accredited seminar aimed at outlining the process of selection and siting of louvres. 01746 761921
www.naco.co.uk

MVHR IN PASSIVE HOUSE, RADIANT CONDITIONING & RADIANT HEATING



Zehnder Group UK, a leading specialist in indoor climate solutions offer three certified CPDs to cover technologies used to heat, cool and ventilate buildings. The three CPDs are *Radiant Heating, Radiant Conditioning and Mechanical Ventilation with Heat Recovery* and will prove of benefit to engineers, energy managers, specifiers, facility managers and architects. Zehnder Group UK will be happy to come to a location of your choice and there is no charge involved. For more information contact Zehnder Group UK directly. 01903 771021
www.zehnder.co.uk/service/cpd

UNDERSTANDING UK BUILDING REGULATIONS RELATING TO RESIDENTIAL VENTILATION



This CPD from Airflow Developments, discusses the reasons why we need to improve indoor air quality in residential buildings and the Building Regulations that need to be adhered to for delivery of an effective, compliant ventilation strategy. The course will cover the following topics:

- Building Regulations and how they apply to the specification of a ventilation system
 - Understanding Compliance Guides and their place in the specification process
 - Good, better, best – From a simple extractor fan How Mechanical Ventilation with heat recovery can provide the complete ventilation solution
 - A system is only as good as the ducting installation – The do's and don'ts of installing a system
 - Sign off by Building Control is mandatory – How to comply
- Advise clients on the aspects of a poor indoor environment that can effect occupant health and degrade the fabric of a building. Explain the principle of operation of a Mechanical Ventilation with heat recovery system and where it will provide the most suitable ventilation solution. Fully understand that proper attention must be paid to the correct installation of ducting and the consequences in energy loss and fan performance when it is not. An overview of how to commission a fan system so that 'Installed Performance' standards are met and Building Control will sign off the project. 01494 525252
www.airflow.com

FUTURE WATCH

A brave new virtual world

With BIM having brought 3D modelling even more to the fore as a standard design tool, architects are now exploring the possibilities of virtual reality to get a realistic idea of how their projects will perform and look. Teodora Lyubomirova reports



Virtual reality (VR) is not a new concept, but the potential for its application in architecture has been advancing rapidly.

A host of advanced visualisation tools are now on the market with software engines enabling users to explore models with a much richer experience and level of detail. This has led digital consultancies to focus on showing architects how the technology can be usefully applied in ways far beyond the realm of entertainment.

The developments in VR coincide with the UK Government's requirement for design teams on its projects to adopt Level 2 (collaborative 3D) BIM, introduced in April this year. The main principle of Level 2 BIM is the ability to exchange project data in formats that can be used by everyone involved, both in their own software and in a project's federated model.

Collaboration has always been key for architects, but the new emphasis on collaboration runs across the whole supply chain.

Now IT pioneers believe that VR is a key tool for ensuring the benefits of 3D modelling in BIM can be fully realised, whether for demonstrating how a building model will work in practice or for presenting the look and feel of a building in a vivid way.

A new era

Until relatively recently, translating drawings or 3D models into virtual reality was a fairly time-consuming process and involved advanced programming skills. Furthermore, showing a demo to a client for example would mean moving and setting up heavy hardware, adding further expenses and pressure to the workflow of professionals already pressed by tight deadlines.

New lightweight VR equipment not only eliminates the latter issue, but more importantly, when it comes to creating the virtual environment, new engines allow 'drag and drop' of BIM objects and models and make the transition from BIM to VR much simpler.

A virtual stroll across London

Design consultancy Wagstaffs, in partnership with daylighting consultant GIA and Vertex Modelling, has spent the past two years developing Vucity, which they claim is the first full 3D model of London. Jason Hawthorne, Wagstaffs managing director, gives credit to games development and in particular Pokemon GO, which is powered by the same Unity platform used in the London model. "The reason why it is so successful is it's one of the first applications that has taken VR and the real world and put them together."

Officially piloted at this year's MIPIM UK, Vucity is a rich tool for architects and master-planners in which Wagstaffs has attempted to unify various aspects of the urban realm and make them available to architects who want to place their BIM model into the city landscape to test it. Because it is VR-ready, Vucity allows users to explore sites and foresee possible issues with the build before construction has commenced.

The company is also utilising a range of data from GIA, which can be overlaid onto the model. This features noise levels across larger areas including the HS2 site, as well as precise sunlight levels, connectivity and locations of construction cranes and protected views. Traffic analyses can also be translated into the model to demonstrate the real impact of new buildings on local infrastructure.

"The holistic view on Vucity is that it allows everyone to look at the model and better understand the impact of developments. This model of London allows us to look better at heights, at densities, and understand that proposed schemes are appropriate," says Hawthorne. "This presents developers with an option to get to know the area better than ever before and ensure they're building in the most suitable location."

Hawthorne says the tool can be useful at

planning meetings and consultations to demonstrate how projects will impact their surroundings. “There’s transparency in the process,” he says, “and people can understand the buildings and how they sit in their context. Lots of those messages can be lost when you go to consultations.”

Kingston Upon Thames, Southwark and Barking and Dagenham are some of the boroughs that have already taken licences to use the model, and Westminster City Council is in the process of signing up. Developers using the software include Taylor Wimpey and Sellar.

Wagstaffs is currently tweaking the model to allow architects to insert their own BIM projects and explore them in VR, but another bigger challenge remains the model’s sheer scale. So far it spans 200 km² of VR-ready London, from Hammersmith and Fulham in the west to Stratford and City Airport in the east, from Camden down to halfway through Southwark.

As Hawthorne explains, work has been concentrated on pockets of areas with “development aspirations,” and the model is expanding by 5-8 km² a month. “At that rate we hope we’d reach the north and south circular roads by summer next year.”

Residential potential

Wagstaffs’ project was initially inspired by a sister service aimed at the residential market, VuitNow, designed to give potential buyers a cross-platform 3D VR-ready model of a property. Another similar service provided the springboard for launching a new digital consultancy with a VR bent into this growing market – Andrew Lucas Studios.

Business development manager Hamza Abbas says the firm launched in response to demand from architects and designers wanting to provide the service to clients, and has now struck deals with a number of consultancies including London-based SODA, Casson Conder Partnership and Attol Architecture. While Andrew Lucas Studios’ main goal remains perfecting its existing mobile app, the team is also focused on creating a bespoke VR-ready platform to enable architects to upload their existing 3D models and immerse users in the environment. “With renders and flythroughs you are looking at a screen but you are not really there,” explains Abbas.

“With VR, whether you are the architect or end client, you can step into an actual property before it has been built.” He adds that the positives from VR technology also extend into the design process itself:



“Normally if you need to make changes once a 3D render has been made, you’d have to go back to the drawing board and re-do everything. The exciting thing about VR is you can change the design.”

VR limitations

While there is scope for amendments, these are mostly cosmetic – colours and textures – and major changes to the plans are still largely done externally. Ben Bennett, managing director of Luminous, a digital consultancy and surveying firm, comments: “VR is a very powerful tool, it gives us a chance to envisage the real world and gives architects a chance to change things virtually.”

“But there are some caveats,” he explains. “You can make changes on the fly – but we’re not there yet with in terms of substantial changes to the geometry; it requires additional modelling.”

He insists even the cheapest visualisation tool can be ‘very effective’ in planning. “We have worked with clients where we’ve actually taken 360° headsets and made planning officers sit down and see something in perspective. A 360° bubble view really communicates issues such as height – and that’s only the most basic way architects can integrate VR.”

At the other extreme, architects can use it more extensively as a design tool. “It gives them a chance to explore whether something

works or not,” says Bennett. “We have found that once they’re in the 3D environment it really shows where things don’t work.”

A future fusion of BIM and VR

Bennett, whose consultancy is engaged in one of the major regeneration projects in London’s Spitalfields with architect/developer specialists Architecton – is urging architects to explore the different engines and visualisation tools in order to build their in-house capacity – which could further streamline the design process by cutting out the middle man. “I think this will become part and parcel of the design process. Architects will test things virtually and do everything in-house.”

He predicts VR will transform construction too, with professionals being able to overlay technical data directly on site and inspecting the changes virtually via ‘smart’ helmets. Bennett concludes: “A lot of people have heard about VR, but they don’t know how to use it to get the benefit within their practice. I encourage architects to start looking at the technology now and learn about the tools there are.”

Beyond that, the industry will increasingly be able to harness AR (Augmented Reality), mixing reality with overlaid CGI, already a familiar tool in the media: “I think we are scratching the surface at the moment, and it will bring big benefits.” ■

SITE LINES

The future is modular

In the wake of the damning Farmer Report on the construction sector's inefficiencies, architect Rory Bergin reports from a recent visit to Legal & General's CLT factory which points to a truly modern CLT alternative future



I have seen the future and I expect it to work really well. We have heard this, or its like many time in the past. The recent history of housing manufacturing in the UK is littered with names that started up factories to manufacture housing, promised great things, failed to deliver and duly died. Not only was this sad for the businesses concerned, but it did quite a bit of damage to those in the industry who favour industrialisation, as these businesses failed usually in the middle of projects, leaving clients high and dry, or failed after buildings had been built, leaving their clients in a difficult situation regarding insurances and maintenance.

So when a new manufacturer hits the headlines with tales of a new factory, promising to deliver a sizeable chunk of the new housing

market, my first reaction is one of scepticism. I want to hear about their accreditations, their processes and most importantly their funding. The one thing that has led to most of the failures in housing manufacturing businesses has been a lack of funding to keep them running in lean times and to enable them to survive the cyclical nature of the housing industry.

If anyone has £50m to spare they are welcome to follow our lead

Legal & General



If you like big machines, you are immediately in heaven in the L&G factory. The largest CNC machines available, the largest panels of CLT that are being manufactured, a purpose-built machine to move modules around the factory floor

Rory Bergin

Legal and General, however, is a different kettle of fish. Every question put to them elicits a surprising response, different from every other manufacturer I have spoken to.

“Why are you setting up the factory?” “We want to invest pension money into a stable market.” “How big is the factory?” “The biggest in the UK.” “How well-funded are you?” “L&G’s reserves are substantial.” “Can we take photos?” “Yes.” “Why? Most factories are secretive about their technology, why aren’t you?” “If anyone has £50m to spare they are welcome to follow our lead.”

“Why CLT? It comes in large, stable panels, we can dispense with joints in the construction and all the problems they bring.” “Where will you get all that CLT?” “We are buying it in for the moment, but we are also building a new manufacturing facility to make it on site.” And so on.

This is not a factory based on some bright technical ideas, although they have plenty of those too, but instead it is based on a pragmatic need to provide income for a pension fund over the long term. This long term need inevitably produces the question, how can they build quickly so that they can get a return as soon as possible, and build well so that the return is guaranteed for a minimum of 30 years, and potentially much longer. The answer is to build the homes in a factory to guarantee quality and speed, and make them from CLT to guarantee their long life. A CLT panel is one of the stiffest, most stable materials available, has no joints if you use one that is big enough, and shouldn’t move in 30 years.

This answer will surprise a housebuilder who is able to build homes very cheaply by putting pressure on the supply chain and building similar types everywhere, but who has no interest in the long-term life of the building. The difference in business model brings about a very different product.

L&G are unlikely to compete directly with the housebuilders, and expect that local authorities and housing associations will be their natural clients, as well as building their own developments.

When it comes to the technology itself, the superlatives come thick and fast. If you like big machines, you are immediately in heaven in the L&G factory. The largest CNC machines available, the largest panels of CLT that are being manufactured, a purpose-built machine to move modules around the factory floor, and so

on. It is a very large set of boys toys. When the factory is in production, it will also manufacture CLT panels, something that is not currently available in the UK. The first production runs will use imported panels until the CLT manufacturing plant is functioning. One of the many benefits of this is the lower cost, but it also means that the factory will produce almost no waste, as any offcuts from the production process go back into the CLT manufacturing to be turned into new panels, or burned in the biomass plant to heat the factory. When you compare this to the 20-30 per cent of waste on the average construction site its not hard to see the benefits of factory processes, not just in monetary terms, but in planetary terms.

The CLT will be turned into large room sized modules, fully fitted out internally, and delivered to site on trucks. The point of this is to de-risk the process and take site trades out of the equation. The CLT panels will be routed out to provide space for wiring and then finished with a cement-bonded particle board to give a flat finish for paint. The particle boards are supplied as room sized elements to remove the need to joint and skim them. There goes the plasterers job! Doors and surrounds are made by machines and assembled in the factory, there goes the chippies job, and the bathrooms are clad in stone sheets, so no tilers required.

The attitude of the team is iconoclastic and disruptive, aiming to re-engineer the process of housing delivery, and with L&G behind them it, it is much more likely that they will succeed than not.

For architects, this offers an opportunity to design new, highly sustainable housing, built to superlative quality to exacting dimensional standards. The factory will produce whatever is required, as the machines don’t care if they do a job once or a thousand times,

This is a game changer. It heralds the arrival of large-scale factory production into a sector that has needed this for a couple of decades

Rory Bergin

it makes no difference to them. There will be some restrictions on what can be designed, as there are limits to the size of a module imposed by transport regulations. Internal detailing will be set by the factory more than by the architect, so there will be fewer opportunities for specification of interiors than traditional construction offers, but the facades will still largely be constructed on site to allow for local flexibility.

The benefits that come with this type of industrialisation will make any design restriction worth it. I expect sites to finish a year quicker than those built using traditional construction, with far fewer defects, less transport miles, less waste, and with a renewable material. As this develops in scale, perhaps it is time to open the issue of embodied energy in Part L to account for the superior contribution to climate change mitigation that this form of construction offers.

In short, this is a game changer. It heralds the arrival of large-scale factory production into a sector that has needed this for a couple of decades. It ticks all the boxes of Mark Farmer’s report into the failure of the housing industry to modernise. It is a breath of fresh air and I wish them every success. ■

Rory Bergin is partner, Sustainable Futures, at HTA Design

Mapei UK comfortably secures shortlisted place at FeRFA Awards

Mapei is delighted to announce they have been shortlisted at the prestigious annual FeRFA resin flooring awards for 'Small Commercial Project of the Year' for their work with Coatech at BDP Architects practice, Bristol.

Mapei's innovative 'Mapefloor Comfort' flooring system in AR/X Grey, was installed to cover 180m² of flooring in the meeting and bathroom areas simultaneously providing a modern resin flooring solution and acting as a demonstration tool for prospective clients.

National Specification Manager Mo Aljan commented, "The shortlisting not only reflects how great the Mapefloor Comfort System is, but also all of the hard work Mapei's technical team and Coatech put into this project."

Initially the carpet tiles and multiple layers of vinyl tiles were removed exposing the sub base. A cove was installed to all walls in the washroom area ensuring the floor area remains easy to clean and maintain.



Mapecomfort rubber mat was adhered to the floor with Mapefloor Pore Filler, then coated with the Mapefloor Pore Filler again. Once this had cured, Coatech applied a coat of Mapei Mapefloor PU 460, a 2-3mm flexible, self-smoothing polyurethane. To finish, two

coats of Mapei Mapefloor Finish 58W, a matt finish polyurethane coating was applied.

Coatech said, "The Mapefloor Comfort Resin flooring system is a fantastic, innovative product and it was great to be involved in the very first installation of it worldwide and work alongside Mapei on this project."

The comfortable level of flooring is provided from the elastic matting at the base of the system also has excellent soundproofing capabilities, reducing the impact of noise transmission into areas below. The flooring system has a high resistance to wear, making it ideal in offices where abrasion from constant foot traffic and moveable office furniture such as castor chairs is prevalent.

For more information regarding Mapei's Mapefloor Comfort system and how Mapei products can be used in your project, contact the company directly.

0121 508 6970 www.mapei.co.uk

A river runs through it

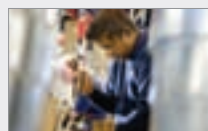


Signbox & the Graphic History Company deliver stunning Thames mural for book publisher Hachette UK. Carmelite House which sits on the north bank of the River Thames, with stunning views across the river and over London, has been home for just over a year to the book publishing

group Hachette UK. The mural, which was commissioned earlier this year and unveiled in September comprises the names of 3,500 authors published by Hachette UK and will grow each year as the names of authors new to the publishing group are added.

01784 438688 www.signbox.co.uk

Vent-Axia gains ISO 14001 certification



British fan manufacturer Vent-Axia is delighted to be recognised for its commitment to environmental excellence having achieved the internationally recognised ISO 14001 Environmental Management System certification for its

Crawley manufacturing facilities. ISO 14001 is an internationally recognised standard and to achieve certification Vent-Axia demonstrated that it has an environmental management system in place to reduce waste and energy use, improve efficiency and meet all legal and regulatory environmental requirements.

0844 856 0590 www.vent-axia.com

A host of energy saving options



A new brochure from Mitsubishi Electric highlights all of the central plant solutions that the company can offer to help reduce energy consumption in our built environment. Commercial buildings in the UK remain massive consumers of energy and the nation has to address the need to

reduce emissions if we are ever to meet ambitious carbon reduction targets. The brochure also looks at large VRF air conditioning systems including the company's award-winning Hybrid VRF which uses water to heat and cool in occupied spaces.

01707 282880 www.mitsubishielectric.co.uk

Glazing specialist – right on target

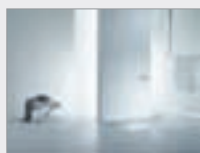


A Scottish glazing manufacturer proved to be in a league of its own when it clinched a GEZE UK competition to win a football table which was staged to celebrate the UEFA EURO 2016 championship. James Gallon, Production Manager at Charles Henshaw and Sons, submitted the winning

entry and is intending to donate the table to the Royal Hospital for Sick Children, in Edinburgh, which is currently being developed on a site in Sciennes, near the city centre. The new hospital is being fitted with GEZE doors in partnership with Charles Henshaw.

01543 443000 www.geze.co.uk

Dallmer returns to Sleep Exhibition



German shower and wetroom drain specialist, **Dallmer**, will be showcasing some of its latest and most stylish products during this year's Sleep Exhibition. Visitors to Stand G28 will be able to see and feel the quality and breadth of ranges from Europe's design pioneer of shower channels. New for

this year is a ground-breaking design, DallFlex, the base unit for a 5 separate and distinct shower drainage products. These include CeraWall P and CeraWall S designs: offering customers versatile solutions to removing high volumes of water from showering areas.

01787 248244 www.dallmer.com

hangrohe Metropol Classic at Sleep

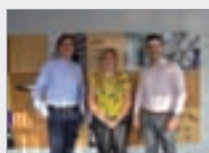


At Sleep, **hangrohe** will present a new range: hangrohe Metropol Classic. The Metropol Classic collection boasts elegant, gold accents on the base, the handles and the spouts of the mixers. Renowned for its trend setting designs for luxurious bathrooms, the AXOR

brand will be launching additions to its classically nostalgic AXOR Montreux collection in 2017. A sneak preview of these may be glimpsed at Sleep with the first showing of a new AXOR Montreux showerpipe. From 22 November, a selection of these new products can also be experienced at The Water Studio in London Clerkenwell.

01372 465 655 www.hangrohe.co.uk

Laidlaw launches graduate programme



Laidlaw has launched its own graduate scheme as part of its commitment to investing in future talent. Laidlaw has appointed Mathew Browne, Ellie Peters and Daniel Wilkinson, all of whom have started a six-month induction and training programme. On successful completion of

the induction phase and complete the GAI (Guild of Architectural Ironmongery) Foundation Programme, they will be placed into key account manager roles within the business and go on to study for a three-year GAI diploma.

01902 600400 www.laidlaw.co.uk

Osmo to awarded ethical accreditation



Osmo UK, is celebrating its tenth year of being awarded Ethical Accreditation. The Aylesbury-based company has once again scored highly in an analysis of its approach to Corporate Social Responsibility, demonstrating Osmo's continued commitment to customers, staff, trade colleagues and shareholders.

The Ethical Company Organisation recently compiled ethical comparison research on paint brands, and Osmo ranked top against eleven other brands. Osmo scored top ranking for environmental report, nuclear power, animal welfare, human rights, armaments, political donations, ethical accreditation, boycott and other criticisms.

info@osmouk.com

New single ply brochures launched for Armourplan® & Spectraplan



Market-leading single ply manufacturer **IKO Polymeric** has launched two new brochures for its Armourplan® PVC and Spectraplan TPE membranes. The A5 landscape brochures are aimed at specifiers and contractors who work with single ply or want to know more. Both Armourplan and Spectraplan are BBA certified and manufactured at IKO Polymeric's dedicated plant in Chesterfield which has ISO 9001 (quality management), ISO 14001 (environmental management) and BES 6001 (responsible sourcing of products) accreditations. The guides give information on the range of options available with 3D renders of typical build-ups including mechanically fastened, adhered, inverted and ballasted. Full-page professional photography shows examples of projects across education, commercial, healthcare and residential sectors. The Spectraplan brochure also advises on the unique environmental and installation benefits of this advanced single ply system including its durability and its rapid and solvent-free hot-air welding process. To view or order a brochure call IKO Polymeric or visit the website.

01257 488000 www.ikopolymeric.com

FDS Consult celebrates Crystal Anniversary



FDS Consult, one of the UK's leading experts in fire engineering, proudly celebrated its 15th anniversary this September. The firm, which was founded in September 2001 by Gerard Sheridan and Andy Riley, has gone from strength to strength, providing a professional and expert approach to fire engineering consultancy. Thanks to its innovative approach to fire engineering, which sees it consider the most appropriate solutions for each project based on the client's requirements, FDS Consult has successfully enabled the realisation of ambitious architectural designs, while also providing substantial cost and space savings. Over the past decade and a half, these qualities have seen the company appointed to high-profile projects, from The Corniche mixed-use development on the Thames' Albert Embankment to the flagship store of fashion brand Alexander McQueen in London. Work of this calibre has seen FDS Consult grow year upon year, expanding in its team to assist in the production of its strategies, Computational Fluid Dynamics (CFD) Modelling analysis and its client offering. This has also resulted in the company opening its new London office, bringing it closer to its clients.

01322 387411 www.fdsconsult.com

Wake up to Sleep

Europe's definitive hotel design event will offer architects the latest industry insights, discussions and products on 22 – 23 November in London's Business Design Centre.

Sleep Set

The annual competition for designers to create concept guest rooms will be focused on The Science of Tribes, exploring the social and cultural specifics of people and how to understand today's diverse hotel guests. WOW Architects from Singapore, Tokyo-based Mitsui Designtec as well as Gensler, Aukett Swanke and Studio PROOF are each creating a guest room for a different socio-demographic 'tribe'.

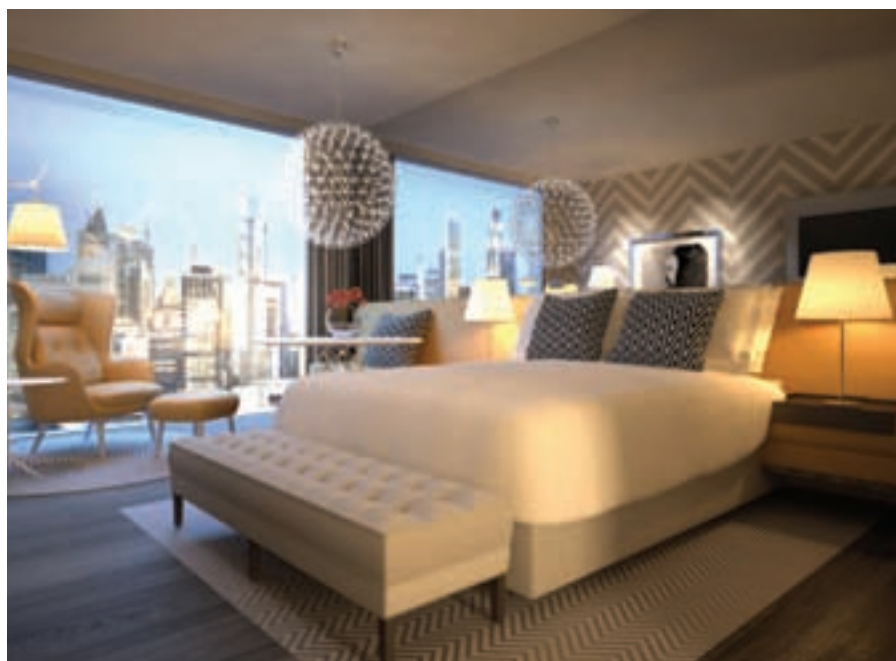
"Sleep Experience" Bar

A pop-up installation which will serve as a networking hotspot throughout the event. Interior design and branding agency Superfutures, in collaboration with visual artist Tupac Martir and Ido Garini of Studio Appetit, is looking to this year's Science of Tribes theme to create the "Sleep Experience" bar.

Immersive Reality Lounge

With 2016 dubbed 'the year of virtual reality', the Immersive Reality Lounge, hosted by tech pioneers Soluis and design consultancy Graven, will allow architects and designers to get their hands on the latest digital reality platforms and experience hotel design concepts in 3D.

These will include the latest VR headset and the Sublime Portal, the next-level shared immersion experience for visitors. The topic will be further explored in a conference session with insight from tech-providers and designer end-users.



Grand ideas and global views

Over the two days, celebrated design names and experts will discuss the latest trends in the industry.

Adam Tihany will be joined by Richard D. Meadows, president of Seabourn and Cunard North America, and Costa Group's vice president newbuildings Christian Schönrock, who will shed light on what it takes to bring innovative design to life on a new vessel.

Signe Bindslev Henriksen and Peter Bundgaard Rützou of SPACE Copenhagen, acclaimed for their work on Michelin-star rated restaurant Noma and five-star hotel 11 Howard in New York, will speak to conference curator and host Guy Dittrich. The penultimate session will see a panel with Vince Stropo of New York-based Stonehill & Taylor as well as Nick van Marken of Deloitte Hospitality discussing the issues behind 'Fear & Love' in the hotel landscape.

Two round table sessions will be hosted

by top names in the business ready to offer advice to delegates.

Development roundtables will be hosted by hotel development, owner, investor and operator sector professionals. Sleep Essentials sessions will be run by experts in lighting design, wayfinding, F&B operations, music curation and material finishes.


Sleepwalking @ Sleep with Modulex

Sleepwalking at Sleep is a new concept by Modulex that channels methods of wayfinding to guide visitors through Sleep 2016 so that they don't miss anything.

Modulex has investigated the psychology of how people 'sleepwalk' through trade shows and will be designing solutions that embrace landmarks, icons and other signage to disrupt unconscious behaviours and spark curiosity, enticing and reassuring visitors as they wend their way through Sleep's myriad experiences – whether a regular attendee or first time visitor.

adf
architectsdatafile.co.uk



incorporating **Building Projects** magazine  @architectsDF

REGISTER ONLINE FOR...

In-print magazine • Digital magazine
Newsletter • Daily digests

www.architectsdatafile.co.uk

Reflectatherm Plus chosen for airport



Reflectatherm Plus from the A. Proctor Group Ltd has been chosen as a high performance vapor barrier for the new Passenger Terminal Building at Muscat Airport in Oman. Roofing, cladding and facade contractor Lakesmere installed the complete roofing system, incorporating Reflectatherm Plus, a reflective,

high vapor resistance barrier. Reflectatherm Plus provides a vapor tight layer, which restricts the passage of both liquid water and water vapor, combined with a heat reflecting low emissivity coating, designed to enhance the energy performance of the building envelope.

01250 872261 www.proctorgroup.com

New Street Station scoops top prize



Following a major £1bn redevelopment, Birmingham's New Street Station has been crowned UK Project of the Year at the industry-leading Royal Institution of Chartered Surveyors (RICS) Awards.

The national Project of the Year accolade is presented to the scheme which demonstrates outstanding best practice and significant benefit. The regeneration of Birmingham's New Street station and its former Pallasades shopping centre opened as Birmingham Grand Central in September last year. The scheme has transformed it into a popular retail and leisure destination and world-class station with a striking soccer pitch-sized atrium that floods the station with natural light.

DESIGNED FOR CITY LIFE

Hardwearing, attractive and DDA compliant; the VELOPA Transport Cycle Stands are designed to fit seamlessly into the modern urban environment.

Find out more at:

www.autopa.co.uk



Email: info@autopa.co.uk

Tel: +44 (0)1788 550556

Web: www.autopa.co.uk

BUILDING
PROJECTSTOTTENHAM COURT ROAD STATION
LONDON

Beneath the streets of Soho

The new Crossrail station at Tottenham Court Road has platforms almost twice the length of an Underground station plus curvy white cladding that wouldn't look out of place in a sci-fi movie. Stephen Cousins got a sneak peek at the advancing construction work

Tottenham Court Road is arguably the most complex and challenging of the 10 new stations being constructed for Crossrail. Occupying a subterranean area the length of three football pitches, between Soho's Dean Street and Charing Cross Road, and running directly below Soho Square, it extends down five storeys underground.

The £1bn project involves the construction of a major new underground station and ticket hall on Dean Street to the west, and a second integrated ticket hall below St Giles Circus, to the east, at the intersection of Oxford Street and Charing Cross Road.

The integrated ticket hall will be six times larger than the site's original London Underground station, featuring a vast new public plaza with station entrances below the iconic modernist Centre Point tower. This vital new area of urban realm is designed to absorb the circa 200,000 people expected to use the station each day when the Elizabeth Line goes live in 2018 – a 50 per cent increase on today.

The western ticket hall will sink to a depth of around 25 metres and feature a decadent black and gold interior designed to evoke the thriving night-time economy of Soho.

The station's 234 metre-long curved platforms will dwarf those on the London Underground, which measure just 130 metres on the Central Line at Tottenham Court Road. The 10 metre diameter tunnels will be on a scale to rival those on Hong Kong's huge MTR Metro system.

"Londoners do not know what is going to hit them, the scale of this project is enormous. I think most people are expecting another Jubilee line, but this is immense,"





says Harbinder Singh Birdi, partner at lead architect Hawkins\Brown, who has been working on the design for the past seven and a half years.

The £14.8bn Crossrail project is the largest infrastructure project currently underway in Europe. Civils works are due to complete at the end of 2017 and the central section of the line, running between Custom House and Paddington, is expected to begin operation by late 2018.

Tottenham Court Road Station was designed by Hawkins\Brown in collaboration with Crossrail, London Underground and consulting engineers Arup, Atkins and Halcrow. Construction is being carried out by main contractor Laing O'Rourke. It is one of three stations being designed by Hawkins\Brown, the others being Liverpool Street and Bond Street.

The existing Underground station at St Giles' Circus was the first to be improved as part of a phased upgrade, including a new ticket hall, new banks of escalators and entrances. The requirement to integrate Crossrail with connections to the existing Northern and Central lines ramped up the complexity.

Ticket hall

Roughly 70 per cent of all people using Tottenham Court Road Crossrail will pass through this main ticket hall. A key reason is to encourage people to use the exit to walk to Covent Garden, where the Underground station is close to capacity and unable to expand due to its Grade II-listed status.

Singh Birdi comments: "Rather than have Covent Garden fall to its knees because so many people are using it, the whole area around Centre Point is being pedestrianised to enable easy access to the area on foot."

The interiors of the eastern ticket hall are light and bright, taking cues from the Centre Point building and other '60s architecture above ground. The local neighbourhood's heavily gridded plan is reflected in an exposed structural soffit, with large concrete downstand beams.

The spaces between the beams are peppered with bespoke drum-shaped light fittings that incorporate acoustic absorbers, to reduce noise and echo. The fittings reference theatre-style lighting and are used within the Crossrail concourse, as well as in the western ticket hall.

A tradition for integrated art at Tottenham Court Road station is continued in the ticket hall where walls are covered with colourful and monochrome artworks by French artist Daniel Buren. In addition, the concrete soffit forming ceiling of one of the eastern escalator boxes will be covered by an applied gold-leaf artwork by Turner Prize-winner Richard Wright.

Singh Birdi comments: "Wright felt that people in London rush around too much, he wanted to create a place where people can slow down and dwell. The artwork is intended to dematerialise the concrete and encourage passengers to reach up and touch it." Artwork by fellow Turner Prize-winner Douglas Gordon will feature at the Soho-side station entrance.

Concourse & tunnels

As passengers descend the escalators, a 'tide mark' defines the transition from the main ticket hall into the concourse and tunnels. The lower levels are defined by a limited palette of common materials used throughout Crossrail, such as precast concrete, glass, anodised aluminium, stainless steel, and glass fibre reinforced cement (GFRP). These

LEVATO MONO

porcelain paver system

The Levato Mono™ porcelain paver system is the pinnacle of external raised flooring technology; enabling the specification of lightweight, slip resistant and attractive raised flooring solutions, combining incredible technical properties with uncompromising aesthetics; making them the ideal choice for commercial and domestic use alike.

Bristol Airport East Terminal Extension

- 20mm porcelain pavers 40x80 45x90 60x60 75x75 30x120 40x120 60x120
- 'Floating floor' – installation over single ply membranes
- Eternal product - zero maintenance required – offering massive over-life savings

- Highly abrasion and stain resistant
- Highly slip resistant; R11 and achieved up to +65 wet in the BS pendulum test
- Lightweight – 45kgs per m2
- High load bearing and impact resistance
- Timber & stone effects; 40+ finishes available

- Ideal for balconies, roof terraces and piazzas, for both commercial and residential use
- Completely non porous
- Fire & frost proof
- Height-adjustable supports from 9mm up to 550mm

www.thedektileco.co.uk

t: 0845 2700 696 e: info@thedektileco.co.uk

dtec
the deck tile co. ltd.





naturally self-finished materials are durable, robust and require little maintenance.

The GFRG panels on the escalator walls are slim – just 40 mm thick compared to around 120 mm for a precast concrete equivalent – and perforated with small holes to aid acoustic absorption. Curved versions of the panels, both solid and perforated, are used in the passageways and on platform walls. A total of 50,000 m² of GFRG, equivalent to seven football pitches, will be used on Crossrail as a whole.

“The GFRG is a device to make it quite evident you are entering Crossrail. In terms of legibility and wayfinding we wanted to characterise what was London Underground and what was Crossrail,” says Singh Birdi.

The panels flow around geometrically complex curved junctions between passageways, a form made possible by the sprayed-concrete tunnel construction technique. There are no sharp angles and the lining panels fit tight to the tunnel walls on a secondary subframe.

It was a laborious exercise to computer model the panels, says Julian Robinson, head of architecture for Crossrail: “It was very complex working through all the geometries, with tunnelling you must deal with non-standard geometries, where the tunnel has to shift position to avoid an obstacle. That creates a number of unique conditions that require unique panel shapes.”

Apart from the cladding, a common set of parts – for seating, signage, communications and fire safety equipment, handrails, screens, and escalators etc – is used throughout Crossrail’s central London stations. The intention is to de-clutter spaces, enhance passenger navigation and create a cool, restrained aesthetic.

The robust, durable materials strongly contribute to the project’s BREEAM ‘Very Good’ rating. Sustainability was always high on the design agenda, during tunnelling works, all excavated waste was moved to Wallasea Island, off the Essex coast, to create a bird sanctuary.

The station is lit entirely using LED luminaires and is mostly naturally ventilated. Under-platform vents channel hot air produced by trains to the ends of platforms, and up through massive ventilation shafts, installed inside new buildings constructed above ground at Dean Street and Charing Cross Road. The hot air will be sucked out by huge 9.5 tonne fans, in constant operation at ground level.



Robinson comments: “We have space-proofed the scheme to include forced air ventilation with a cooled component in future, but that will not be needed from day one because the system will not have the inherent built up heat.”

The project is future-proofed to permit the future intersection of the Crossrail 2 project, which will intersect through the mid-section of the concourse tunnels. Tenders for the work will be launched soon. Four architects will design the £32bn project, which is worth more than double the current Crossrail.

Above ground

Emerging from the tunnels at the Western end of Tottenham Court Road station, people will pass below new residential blocks, on a scale appropriate to the domestic scale and tradition of Soho.

Hawkins\Brown designed the block directly over the station, which uses the same black and gold aesthetic seen inside the ticket hall. The facades will feature black

reconstituted stone cladding with projecting window reveals and pleated gold anodised patterned aluminium spandrel panels.

As construction of the station progresses, the mechanical and electrical fit out and installation of the GFRP panels in the platforms are underway. Leading up to Christmas, at ground level, the construction team will be focused on utilities installation, which will involve a significant period of breaking-out. Meanwhile, installation of the permanent tunnel ventilation equipment is underway.

The project is at a critical phase as it transitions from a major civils project to a major fit out project, requiring effective integration of multiple systems and contractors. In other words, the ‘skeleton’ is now in place, but the heart, lungs, nerves and everything else must be fully coordinated and installed.

Then will come the wider task of connecting this station up with the other nine new stations, and all their related systems. Systems integration is the biggest risk factor

The intention is to de-clutter spaces, enhance passenger navigation, and create a cool, restrained aesthetic

on any mega-project of this scale.


The level of coordination and expertise required to build the Crossrail station at Tottenham Court Road is mind-boggling, a fact that will not be immediately apparent to the public when the station opens. Robinson comments: “The public will be wowed by the elegance of the finished station, but they will not be aware of the incredibly complex journey required to get there, which has involved lots of hard work with everyone working together to create a great passenger experience. This is truly the next step forward for transport infrastructure in London,” he concludes. ■





AXEDO speeds up drainage install

The use of the Axedo plastic inspection chambers has significantly reduced the installation time of a highly efficient, integrated drainage solution for a brand new multi-storey car park at London Luton Airport (LLA). Buckingham Group approached water management specialists JDP to supply an effective drainage management solution to protect the new facility. The JDP technical team designed a system incorporating Axedo plastic inspection chambers as part of a fully integrated underground drainage pipe system. Axedo is a state-of-the-art inspection chamber system, which is fast, versatile and provides a safer option than concrete. As an alternative to the traditional concrete chamber, the use of Axedo plastic chambers can lead to savings in installation time of up to 50 per cent, saving cost both in time and materials.

0800 195 1212 www.jdpipes.co.uk




**PROTECTING
YOUR WORLD**


**AUTOMATIC RISING ARM BARRIERS
FOR PUBLIC TRANSPORT**

MANUFACTURE INSTALLATION MAINTENANCE

GATES, BARRIERS, BLOCKERS & BOLLARDS



WWW.FRONTIERPITTS.COM
+44 (0)1293 422800



MADE TO MEASURE CYCLE STORAGE

Find out more at:
www.autopa.co.uk

Email: info@autopa.co.uk

Tel: +44 (0)1788 550556

Web: www.autopa.co.uk





**BUILDING
PROJECTS****LAND ROVER BAR BASE
PORTSMOUTH**

A sustainable flagship

The new headquarters of the British team competing for next year's America's Cup under Sir Ben Ainslie is a highly flexible office building as well as a sustainability exemplar in marine sport. James Parker visited and spoke to the architects behind the project

The America's Cup is the oldest international sporting trophy, started in 1851 when a US sailing team challenged and beat a British team in a race around the Isle of Wight. It has developed to be a showcase for cutting edge sporting and engineering excellence, making it the Formula 1 of sailing.

Next year the prestigious competition takes place in Bermuda, with the UK's entry being staged by the Land Rover BAR (Ben Ainslie Racing) team and its super-fast hydrofoil catamaran. The team was formed in 2014 by Sir Ben Ainslie with one aim – bringing the cup 'back home'. Although the priorities are designing a Cup-worthy boat and assembling a world-class team to sail it, Land Rover BAR also has a major focus on sustainability and supporting the local community, and raising the bar for what a sports team can achieve on these goals.

This has been embodied in the team's new permanent headquarters in Portsmouth's historic dockyard, which combines all of Land Rover BAR's operations in one exciting and unusual building. It is a new hybrid, part high-end commercial HQ, part secret high-tech boat assembly and testing facility, but also combines this with a high-profile, more public role.

As well as housing design, assembly and testing areas for the boat itself, the building is a visitor centre showcasing the innovation and technology going on, welcoming schools and community groups.

It also contains substantial office accommodation which offers a high degree of flexibility as the team grows, as well as high-tech monitoring of the carbon fibre-constructed boat in use.

Land Rover BAR has the aim of being the UK's most sustainable professional sports team, and a major step towards this is its having become the first team of its kind to operate from a BREEAM Excellent building following certification this summer. It is also thought to be the first building in Portsmouth to get the accolade, so is leading the way locally.

Aligned with the team's single-minded focus on winning the cup, Sir Ben Ainslie applied the same level of drive to placing sustainability aims at the heart of Land Rover BAR at an early stage. This was partly driven by the goals of helping restore the health of the oceans, which is at the core of the 11th Hour Racing sailing initiative which supports the team as its Exclusive Sustainability Partner, and has been embodied in the new building as an exemplar for sport and the local community to follow. The new HQ's wide range of sustainable features includes generating much of its electricity from renewable sources.

Construction of the £15m project, which was assisted by £6.5m of Government funding, started in July 2014, and was completed on a demanding 12 month timescale. The design team included HGP Architects (the practice behind Portsmouth's 2005 Spinnaker Tower); as well as main





contractor Allied Developments, structural engineer Reuby and Stagg, and environmental consultant Couch Perry Wilkes.

All in one

By bringing together all of the team's facilities in one place, the building brings important efficiencies to the client. Not least of which is the knowledge sharing and collaboration possible from having the boat and sailing team located in the same place as its designers and testers, who are also able to receive real time information in the HQ from the boat as it is tested out in the Solent.

Previously, as is typical with America's Cup teams, all the shore-based staff, including design, engineering, commercial and marketing were in one temporary office just outside Portsmouth and the

sailing and shore team was based in another temporary facility several miles away in Southampton Docks. Vivienne Conway of HGP comments: To share any information coming off the boat they had to either visit the shore team or email designers, there wasn't a constant level of intellectual interaction." She continues: "Now, housing them all under one roof, including a great canteen - there is continual exchange of ideas and instant collaboration."

Matthew Williams, architect for the project adds: "When we were brought in there was no site, and a very small team, but Land Rover BAR was very clear that they wanted a building that would support them beyond one cup cycle. They wanted something sustainable, that wouldn't need to be reinvented every time."

By bringing together all of the team's facilities in one place, the building brings important efficiencies to the client

Siting and form

With Portsmouth's maritime heritage giving a building of this prestige a natural setting, the HQ is located on a concrete piled dock on the Camber (Portsmouth's historic commercial docks). This means the team can launch the boat straight from the ground floor maintenance bay.

The curved six-storey building appears deep plan. Deceptively however, in tandem with its unusual set of functions it is somewhat unusually planned, around the focal point of an enclosed atrium. Topped by an ETFE cushion, it distributes light down to the ground floor.

The west elevation is mainly given over to three giant shutters to the maintenance bay where the boat itself is assembled and kept when not on the water. It is emblazoned with a Union Jack but in the more muted greys of the team colours, giving a clear hint of this facility's purpose in this prominent location.

To the rear the upper levels of the building are cleverly stepped back, rotating north west on plan around the circulation core to provide large terraces cascading down three levels. Most of these have been covered with a total of 432 solar PVs, generating 20 per cent of the building's hefty electricity load.

Accommodation

Between ground and first floor is a mezzanine level, also dedicated to the sailing team including changing rooms, meeting room and gym. It also has a public viewing gallery overlooking the main workshop floor. A second mezzanine houses plant rooms and a sail storage loft.

The first level contains the office functions, including design, business development, accounts and marketing, as well as the video room monitoring live boat data, server room and video editing facility.

The second floor houses one of the unique selling points of the centre, an education centre called the Tech Deck, which has a former test boat on display, as well as virtual reality displays and telemetry data coming in from the boat itself. Susie



By Appointment to
Her Majesty The Queen
Manufacturer and Supplier
of Secondary Glazing
Selectagglaze Ltd.

selectagglaze
1966-2016

50

Seamless integration giving you the added benefits of:

Warmer

Quieter

Safer



Five Kings House, London

- The most effective method of sound proofing
- Exemplary thermal retention creating a more comfortable environment
- Reversible adaptation for Listed and heritage buildings
- Helping projects achieve BREEAM Excellent standards
- Secured By Design accredited

T: 01727 837271

E: enquiries@selectagglaze.co.uk

www.selectagglaze.co.uk



@selectagglaze

TAPER-LOC^X
DRY GLAZE RAILING SYSTEM



LIGHTER, MORE AFFORDABLE AND EVEN STRONGER!

INTRODUCING CRL'S NEW 9BL SERIES BASE SHOE FOR FRAMELESS GLASS BALUSTRADE SYSTEM

- ▶ For use with CRL TAPER-LOC® System
- ▶ 50% faster to install than alternatives
- ▶ Saves Time & Money – The horizontal TAPER-LOC® design allows the system to be adjusted, dismantled and re-set
- ▶ Suitable for use with 17.52 (9BL68 base shoe) and 21.52mm (9BL21 base shoe) laminated toughened glass
- ▶ Can be clad in 6 standard architectural finishes
- ▶ Also available in satin anodised finish - no need for cladding!
- ▶ Bottom and side drilled base shoe available
- ▶ Only laminated system pursuing ICC-ES approval

NOW 30% LIGHTER

INNOVATIVE
EXTRUDED
STRUCTURE



CONFORMS TO
BS 6180:2011



CRL

For information call **FREE**
on 00 800 0421 6144

To see a demonstration, visit taper-loc.co.uk

e: taper-loc@crlaurence.co.uk f: 00 800 0262 3299





Tomson, sustainability manager at Land Rover BAR comments on how the centre is at the core the work of the charity the 1851 Trust and shows how the base can inspire local school children, who now visit the Tech Deck: “Part of the reason for the Cabinet Office funding we received was based on our reaching out to local schools.”

The second floor also includes the communal canteen, which is an important space for bringing everyone together, and features vegetables from the roof terrace garden. On the third level is a VIP hospitality area nicknamed the flight deck, with access out on to the terrace for fine views of the surrounding docks.

Helping to alleviate the need for summer cooling as well as providing a distinctive sail-like look is a protective translucent mesh wrap which covers much of the west, north and east elevations of the building. It allows natural light through, but reduces solar glare for the offices as well as solar gain, further assisted by solar control glazing and brise soleil on areas not covered by the wrap. In addition the wrap functions as an insulation layer which keeps the building warmer in winter by, it is thought, around 4-5°C.

An interior centred around one aim

The central atrium assists meeting sustainability goals, bringing natural light into the office floors and reducing the need for artificial lighting, and naturally ventilating the building, with air drawn up released through glazed louvres at upper levels. This has negated the need for mechanical ventilation although some comfort cooling is provided. Says Williams: “It creates a great stack effect.”

With a primary design aim of linking everyone in the building to the end goal of the boat and sailing team, the atrium has driven other design benefits. These include providing a definition to office areas for separate teams within the open plan office space around it, and provide a visual connectivity across the whole building. Thanks to the large spans of the building’s steel frame, partitions can be easily moved to facilitate the teams’ needs as they continue to grow organically.

Conway describes the benefits of the visual connection for the office teams: “Because of the atrium, all teams can see each other. It’s not like in a big office building where the central core has three or more lifts and staircases and you can’t see across.” Williams: “The guys on their computers upstairs can look down and

see what they are influencing downstairs. A bit like old industrial buildings with the design office looking into the factory itself. The connection with the atrium really puts the focus on the boat.”

Staff cycling to work (which is encouraged) come past the boat to have a shower before heading to their desk, so no matter what their role is, they feel instantly connected. On the other hand they have break-out areas including roof terraces so the focus is not solely internal.

Closely guarded secrets

The wrap gives the building something of the appearance of a half-unwrapped gift, and this speaks somewhat to the rather secretive nature of much of the facility, ensured by access control throughout. There is good reason, due to the sensitivity of information required to design a winning boat, not to mention the history of espionage in the America’s Cup with teams attempting to get a glimpse of what their rivals are planning.

The designers therefore needed to create multipurpose spaces to simultaneously deliver privacy for offices and very public presentation and marketing events. HGP

MINIMUM ENVIRONMENTAL IMPACT, MAXIMUM SAVINGS

- **Overall estimated savings from sustainability measures:** £2.4m
- **Solar panels generation:** 130 mWh/pa (20 per cent of the building’s electricity)
- **Demolition concrete reused in foundations as secondary materials:** 100 per cent
- **Recycling of demolition materials from the site:** 97 per cent
- **Improvement in water efficiency over existing UK building regulation standards:** 25 per cent
- **Factors monitored by Building Management System:** 15 (inc energy and water consumption, renewable energy generation and waste)
- **Number of species now using site for their home:** 69 (eight before development).
- **Heat increase from fabric wrap air cushion:** 4-5°C

says that the atrium was again beneficial here: “Where it sits in the plan, it naturally creates a tighter point where the reception is. So visitors come in, ascend the main lift/stair core, and can be led into the meeting room without having to go into the office area.”

With the design team located at the ‘back’ of the building, the atrium creates a natural divide, and when people first enter the office level they are not going to see sensitive information on screens. However, Conway adds: “it doesn’t feel overly secure because it’s still an open plan office. The space allows the team to manage it well without feeling they are locking bits off.”

Sustainability & BIM

The project’s successful gaining of the BREEAM Excellent stamp is down to a far-reaching approach to sustainability which is claimed to have reaped savings of up to £2.4m on the building. This has come not only from familiar substituting of recycled materials and waste minimisation but also from BIM design modelling using BIM modelling and monitoring in-use performance post-occupancy using a bespoke building management system.

The solar panels generate 130 mWh per year (and working with a local school has enabled its roof to also be covered with PVs). Natural ventilation, materials recycling and a combination of high levels of natural light and LEDs when it comes to artificial light are all helpful. Some rainwater harvesting has been installed but this was limited due to the syphonic drainage system installed to the roofs. However necessary infrastructure has been installed for potential future installation of CHP and ground source heat, such as stainless steel ducts.

The ‘whole life thinking’ applied across the project has extended beyond the construction phase to day-to-day management of the facility. Tomson admits that BREEAM is “a challenging process to go through,” but it usefully “helped the team to keep on target.” Williams continues: “BREEAM makes you make decisions that you might not – it’s a good way of focusing and informing the client on some agendas that might not necessarily have been there. It can help them see how something will benefit everybody involved when it may not be their priority.”

A case in point; thousands of oysters were saved from a dredge site as part of a wider Solent Oyster Restoration project, and relocated to 9 m² of artificial reef on



the team’s pontoon, provided by MDL Marinas. This has helped restart a viable population of oysters in the Solent region.

Specification of natural and low energy (LED) lighting and rainwater harvesting Whole life thinking has meant that operational efficiency has been incorporated not just into the construction phase but also day-to-day management of the facility.

The legacy of this building looks strong – it will initially employ about 90 people, but there are many more potentially in the supply chain, plus an apprenticeship and training scheme

The use of a steel frame, necessitated by the open spans required in the atrium, enabled the reduction of materials by about 20-30 per cent – thanks to manufacturer Westok water cutting holes in the frame. And thanks to BIM, clash-checking of beams was turned from a slog to a quick process, flagged up by the software. Says Williams: “With a building like this in 2D you’d end up with thousands of joists to check. With BIM we could just bring the steel fabrication model into ours, and you can just see where things haven’t been interpreted properly. It means the approvals process is accelerated no end.”

This project won a 2015 Constructing

Excellence award for coordination and collaboration in BIM – which even extended to the fabric wrap – and it’s not hard to see why. With a very tight schedule, it enabled “drawings to be done at the same time as the model which you could never do in 2D,” says Williams. “It’s such a complicated building and only way you could achieve the speed of build was by collaborating in that way.

Given the speed required HGP held the federated ArchiCAD BIM model in this case, and the other members of the design team plugged in their models, rather than federating all models in third-party software.

Conclusion

The legacy of this building looks strong – it will initially employ about 90 people, but there are many more potentially in the supply chain, plus an apprenticeship and training scheme. This all helps its sustainability case as a catalyst for encouraging participation in the sport of sailing, and the wider marine industry and local economy.

A post-occupancy evaluation which is underway with the University of Portsmouth is using a BMS to give clear info on the first year of occupancy, revealing data on aspects such as how much cooling cost the wrap is saving, how well the PVs are doing. It will show where the building is performing as expected, and where lessons can be learned. The architects believe these could be even be implemented by tweaking the BIM model itself, thus fulfilling the goals of BIM as well as ongoing sustainability aims. ■

Heradesign helps create a cultural icon



Ogilvy & Mather UK and MEC, have moved their creative businesses to the iconic Sea Containers on the South Bank. BDG Architecture + design and Matheson Whiteley have created a dynamic workplace that is designed to drive innovation. A large amphitheatre plays a prominent role in this vision. Heradesign ceilings from Knauf AMF were fitted in the amphitheatre. Heradesign is a range of high-performance ceiling and wall panels manufactured from wood-wool. To help maintain a comfortable acoustic level, Heradesign provides outstanding Class A sound absorption.

0191 518 8600 www.knaufamf.co.uk

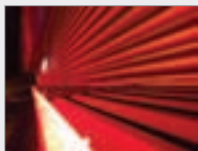
Expona helps create high design office



Polyflor's high performance Expona SimpLay PUR loose lay luxury vinyl tiles were recently used to create a stunning office interior for the London headquarters of global biopharmaceutical company Stallergenes Greer. This hard wearing premium vinyl floorcovering is designed to cope with the demands of busy office environments. Expona SimpLay is also enhanced with Polyflor PUR, an exclusive and robust polyurethane reinforcement which is cross linked and UV cured to protect the floor and reduce ongoing maintenance costs.

0161 767 1111 www.polyflor.com

Oops! Pulsar has done it again



Back in May 2003 Pulsar installed its own LED lighting on the front of the building, confident in its reliability, longevity, and durability. 12 Chroma Panels were installed and have been running 24/7 ever since. Pulsar believes this to be a world first, holding a World Record for the "Longest

Lasting LED Installation." In the May of 2005 an additional 21m of ChromaStrip2 product were installed on Pulsar's facade. Would you believe it, Pulsar's ChromaStrip2 product has now also surpassed 100,000 hours! The world's second longest lasting LED installation.

01223 403 500 www.pulsarlight.com

Crittall proves popular at Poplar



Crittall steel windows provided the original fenestration in the art deco Poplar public baths when they were built in 1934 in London's East End. And weather-tight, energy efficient Crittall products were the ideal replacement when the Grade II listed building was refurbished. A mix of Crittall Corporate W20 fixed lights with screwed in vents, Corporate C2000 fixed lights and cold form doors were installed. The slim profiles of the steel

windows make a major contribution to the light and airy appearance of the sports hall with its arrangement of hyperbolic concrete arches.

01376 530800 www.crittall-windows.co.uk

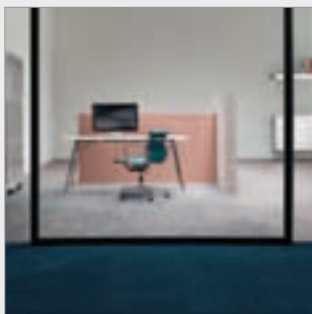
London lawyers create multiple meetings rooms



Two revolutionary Skyfold, vertical-rising partitioning walls from Style, deliver outstanding functionality to the new London offices of leading law firm, Blake Morgan. Working with architects, Roger Bannister Design, and Overbury as the contractor, Style further recommended combining their Skyfold units with two DORMA Moveo acoustic glass moveable wall systems. The resulting configuration allows numerous opportunities for different room sizes, directly meeting the client's ever-changing requirements. Fully automatic, the Skyfolds descend from their housing in the ceiling cavity at the press of a button, rapidly transforming the floor space from an open-plan area into four smaller meeting rooms. The Moveo glass systems run the length of the room, creating a corridor when both are in place giving the law firm two very large meeting areas either side, each with pass door access. Ensuring privacy even with large numbers of people, both moveable wall systems benefit from automatic seals, giving them outstanding acoustic integrity. Laboratory test results give Skyfold walls an exceptional 51dB Rw acoustic performance, whilst DORMA's glazed system is rated at 50dB Rw.

sales@style-partitions.co.uk

Three designs, three shapes, three textures; one holistic workplace



Forbo's new Synergy collection brings together carpet tiles and Luxury Vinyl Tiles (LVT) that have been specifically designed to work together, enabling designers to create an almost infinite number of stimulating, on-trend floor designs for multi-use, commercial interiors. The collection is split into three designs – Seagrass, Hybrid and Marble. Each design has four Tessera carpet tile and four Allura Flex LVT co-ordinated colourways, complemented by pure colour from the Tessera Clarity cut pile carpet tile range. Reflecting the growing trend for different modular formats, Synergy offers planks and extra large tiles in addition to 50 x 50cm tiles. The new Synergy collection is as convenient as it is stylish. All of the products can be easily installed using the same tackifier and can be fitted directly next to each other without the need for transition strips, additional profiles or sub-floor build up. Designers can concentrate on achieving their desired scheme as there is a standardised cost per square metre. For more information please visit the Forbo website or contact the company directly.

info.flooring.uk@forbo.com

Making a ripple in Reading



One Forbury Place in Reading is a 186,000 sq ft speculative office development, owned by M&G Real Estate, which has a particularly distinctive exterior, thanks to a custom solar shading and screening solution, courtesy of **Levolux**. Levolux was approached to design, supply and install a custom solar shading solution, comprising a combination of horizontal and vertical twisted fins. Based on Levolux's popular Infiniti Fin system, each series of horizontal Fins appears continuous, extending more than 55m across the building.

info@levolux.com

Comfort and sustainability at Winnersh



GLASSOLUTIONS has given a new multi-occupancy office block a sustainable edge, with the installation of solar control curtain walling providing exceptional thermal efficiency for the building. **GLASSOLUTIONS** was contracted to manufacture and install 3400m² of curtain-wall facade for a new multi-occupancy office block at the Winnersh Triangle site. To adhere to Winnersh Triangle's exacting sustainability specifications, **GLASSOLUTIONS** employed a variety of different elements to maximise the efficiency of the building's envelope.

0247 654 7400 www.glassolutions.co.uk

Modern makeover for industrial estate



Oaks Industrial Estate located in Leicester recently benefited from a face lift thanks to the collaboration between Season Masters Windows and **Kestrel Aluminium Systems**. The project specification required new windows to be thermally efficient as well as creating a modern and clean look. Season Master Windows once again approached their trusted aluminium supplier, Kestrel Aluminium Systems, to supply the complete product kit required to fabricate the windows. By opting to use aluminium windows it has resulted in a modern look being achieved with the added benefit that the units are safe and secure.

0121 333 3575 www.kestrrelaluminium.co.uk

Rehau's largest installation in the UK



40 Chancery Lane, on a prominent corner site within the London WC2 conservation area, features the largest installation so far in the UK of **REHAU's** innovative chilled ceiling system. In the eight storey building, more than 5,000m² of ceiling features **REHAU's** radiant CoolBoard plasterboard system. This is part of an overall specification designed to achieve challenging sustainability targets and a BREEAM Excellent rating. **REHAU CoolBoard** is essentially plasterboard panels with integrated loops of **REHAU's RAUTHERM 10mm PE-Xa** pipe.

01989 762600 www.rehau.co.uk

TORMAX RACEs ahead



Reflecting the cutting-edge nature of the work being carried out by RACE (Remote Applications in Challenging Environments), **TORMAX** was contracted to design and install a prestigious three-wing revolving entrance combined with automatic pass door, delivering easy access for staff and visitors to the research facility near Oxford. Representing one of the most advanced operators on the market, the swing door is powered by an **TORMAX iMotion 1301** door drive, uniquely designed to deliver unparalleled reliability and longevity. Working with Queninborough Aluminium Services (QAS), **TORMAX** has created an eye-catching yet functional entrance system that is in keeping with the impressive, contemporary design of the building. Demonstrating a commitment to sustainability, a manual revolving entrance was specified, effectively helping maintain the ambient temperature of the main reception by reducing heat-loss from the building. Offering clear access for the less-able, as well as to allow for bulky deliveries, an automatic swing door to one side provides smooth, hands-free passage.

sales@tormax.co.uk

Ceramic Granite tackles water ingress in Birmingham refurb



A serviced office building in the heart of Birmingham's Colmore business district has been transformed thanks to the installation 800m² of **Shackerley's SureClad®** ceramic granite ventilated cladding system. Located in a conservation area, 43 Temple Row is a seven-storey office building of 1980s construction. The building's quarried travertine and granite facades had weathered significantly since its original construction, enabling rainwater to penetrate the existing panels and damage the structure's concrete frame. The water ingress had also caused the travertine panel fixings to corrode. Planning restrictions required the refurbishment scheme to complement surrounding buildings and **Shackerley's SureClad** ceramic granite system provided the ideal solution, matching the appearance of the original travertine facade while utilising a contemporary, high performance material with almost zero porosity. The building was stripped back to its concrete frame and a new concrete substrate was installed, prior to the installation of 1200x600mm **SureClad** ceramic panels in a travertine style and colourway that was virtually indistinguishable from the original stone cladding.

sales@shackerley.com

EVC system BIM objects announced



Baldwin Boxall has announced the availability of BIM objects for their two Emergency Voice Communication (EVC) systems – Omnicare and CARE2. The drawings are freely available from the company to anyone upon request. Baldwin Boxall's EVC systems have been

well-proven and are the systems of choice for many. The company builds on its reputation for offering a complete service and will always go that extra mile for their customers. This has been proven to be the case by a recent customer survey.

01892 664422 www.baldwinboxall.co.uk

The complete roof welding solution

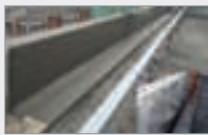


The use of thermoplastic roofing membranes has increased significantly in the last 20 years. Their benefits such as energy savings and reduced cooling costs, as well as being highly durable, means it is the most popular material in the single-ply commercial roofing industry. A solution to this problem is the UNIROOF AT/ST from Welwyn Tool Group, which

is the complete roof welding tool offering high performance in a compact design. It enables roofing professionals to effectively weld thermoplastic membranes close to the roof edging, in confined spaces, on flat surfaces and on top of parapets.

info@welwyntoolgroup.com

Remmers keeps guests dry



The roof of a busy hotel in the central of Manchester required general repairs and had failing waterproofing to the parapet walls. The building had been suffering from water ingress from the roof for a number of years which had gradually worsened

over time. Remmers Kiesol was used as an injection agent to remedy the damp in the brickwork and is ideal for fair-faced masonry with high moisture penetration. Remmers Multi-Tight 2K was also applied as it has a crack-bridging capacity five times more effective than the standard flexible mineral based waterproofing systems.

01293 594010 www.remmers.co.uk

Sika reinforces residential buildings



A total corrosion management concrete repair specification from Sika provided the protective solution for residential buildings' deteriorating exterior to ensure the long-term comfort and safety of its occupants. Major refurbishment works have been carried out on the Heathgate

Estate near Norwich city centre, with works completed on a phased basis, focusing on two residential blocks at a time. The exposed repair area surfaces were applied with Sika® Monotop®-610, a high-performance, one-component, cementitious polymer-modified primer.

01707 394444 www.sika.co.uk

In the public eye? Keep your buildings looking good with our cost-effective protection products



Smart and robust doors that never need painting.



Low maintenance cornering for the perfect edge.



Attractive, easy-clean surfaces look the business

Environmentally-friendly and welfare-conscious, we specialise in people-busy buildings.



**For more information call
0113 279 5854
or email
sallyann@yeomanshield.com**

www.yeomanshield.com

The ultimate GRP direct lay system

Topseal has launched an innovative liquid-applied roofing system that has secured BBA Certification.

The Topseal Direct Lay System is a ground-breaking liquid-applied GRP roofing system for new build and refurbishment flat roofing projects. The seamless system can be specified for almost any project regardless of size or complexity, without the inconvenience of removing the existing roof when used for refurbishment or directly onto tissue-backed insulation for a warm-roof configuration.

Topseal Direct Lay, can be applied directly to a range of materials including felt, asphalt, concrete and tissue-backed insulation and all components are completely cold-applied, which eliminates the risks associated with the use of heat or flames used during installation. As with all Topseal systems, Topseal Direct Lay is only installed by Topseal trained and approved installers and the system comes with a 20-year guarantee of workmanship and material performance.



Topseal offers a range of advanced GRP roofing systems fitted through a national network of highly trained and approved Installers. Since the company's GRP system was first introduced back in 1992 it has been

installed on millions of square metres of roofs all over the UK. Topseal is the ultimate fibreglass flat roofing system suitable for both domestic and commercial works. The Direct Lay system is suitable for new build and refurbishment flat roofing projects with an optional guarantee protection certificate. It ensures minimal disruption on site and no landfill as no removal of the pre-existing roof is necessary.

Also, no new decking boards are required, minimising the risk of water penetration into the building during installation.

A full range of BS/RAL colour topcoats are available, along with an anti-slip finish. Topseal also provides full specification assistance from its experienced and knowledgeable team. The Direct Lay solution continues to build on Topseal's tradition of manufacturing the pinnacle of GRP roofing technology guaranteed to last a generation and designed to last a lifetime.

01423 886495 www.topsealdirectlay.co.uk

better BITUMEN

Good for the **environment** and good for the building, bitumen is a **trusted** material that has been used to **waterproof** structures for centuries. Now with **advanced** technology, Axter bituminous membranes are more **robust** than ever and designed to last the **lifetime** of the building.

We manufacture the most reliable bituminous membranes.
Trust **BITUMEN**. Trust **AXTER**.

AXTER Complete Waterproofing | www.axter.co.uk | info@axterltd.co.uk
Hot Melt - Reinforced Bituminous Membranes - Single Ply - Liquid

Don't set your watch... watch it set!



Introducing the new smart mortar adhesives from **Simpson Strong-Tie** – the first chemical mortar to change colour as it cures. There's no need to guess when to start loading studs in masonry or concrete, because our latest fast curing range of mortar resins change colour (from blue to grey) as they set. So you'll know at a glance. Simpson Strong-Tie Sales Director Jon Head says, "We're pleased to announce our innovative range of mortar resins, which offer some great features to make the job simpler for builders. Our general purpose Poly-GP is ideal for solid or hollow block masonry, and our AT-HP high performance resin is approved for use in threaded rod and rebar concrete. Jon continues "Both mortars cure in as little as 20 minutes, and being styrene free, they doesn't give off any nasty odour. What's more each cartridge comes with two mixing nozzles – another breath of fresh air!" A full range of tools and accessories is also available – including threaded rods, pumps, brushes and applicator guns. For more information visit the website.

01827 155600 www.strongtie.co.uk

Plaswood outperforming timber on historical Cotswolds canal



A recent inspection has revealed that **Plaswood** 'plastic wood' lumber is outperforming timber planks at an historical canal lock gate in the Cotswolds. The top gates of Blunder Lock near Stroud were restored in 2013. Plaswood recycled plastic lumber sections were fitted to the gates at the lock, which had disintegrated over the years and rendered the lock unusable. After a recent inspection, the top gate fitted with Plaswood lumber sections at Blunder Lock has been found to be performing very well, with excellent implications for future work on the Stroudwater Navigation. Plaswood has a significantly longer life expectancy than timber and it provides long-lasting solutions for boardwalks, jetties, marinas, wetlands, flood barriers, fencing, furniture and structures located in wet, harsh or damp environments. Plaswood high performance lumber is made from 100 per cent recycled plastic and offers a no maintenance solution: unlike conventional wooden decking or lumber (aka timber), Plaswood doesn't require annual maintenance, staining or painting. It is a sustainable and cost-effective alternative to using traditional materials such as hardwood, concrete and steel.

0333 202 6800 www.plaswoodgroup.com

Wraptite-SA delivers at 1400m



Wraptite-SA airtight membrane from **A. Proctor Group** have once again proven their capability to deliver high performance airtightness, this time, at an altitude of 1400m on a ski chalet in the Rhône-Alpes.

The use of Wraptite-SA makes a significant contribution to a building's thermal performance by preventing lateral air movement. Wraptite-SA's high vapour permeability allows any water vapour to escape the wall construction efficiently thereby avoiding any interstitial condensation problems. This ensures good indoor air quality and reduces the likelihood of timber distortion.

01250 872261 www.proctorgroup.com

Technologically advanced panels



Hemsec Panel Technologies has developed one of the most technologically advanced ranges of food safe, fire rated, structural, insulated composite panels for use in internal applications and external envelopes across multiple building sectors. HPT panels are lightweight, offer exceptional thermal properties, high levels of sustainability and environmental performance together with reduced on-site installation times. Hemsec Panel Technologies specialise in Cold Stores, Clean Rooms, External Roofing and External Cladding.

@HPT_Panels



Composite Insulated Panel Manufacturer

External Roofing || External Cladding || Cold Stores || Clean Rooms

HPT EXTERNAL

Applications include:

- **Retail Buildings**
- **Leisure Centres**
- **Volumetric Off-Site Builds**



Lightweight with exceptional inherent strength and capable of 'single spanning' horizontally up to 8m, HPT External reduce the need for secondary supports enabling a reduction in structural steelwork and cost.

Other product ranges include:

HPT CONTROL || **HPT CLEAN** || **HPT CARRIER**



www.hpt-panels.com

Tel: 0151 426 7171 Email: enquiries@hpt-panels.com



Designing for better flood control

Climate change is posing a constant challenge to designers to create efficient flood management systems. Stuart Pearce of GeoSmart Information reviews current practice and says the industry needs to take a broader view



Groundwater remains the least understood, and the least managed, of all flood risks by professionals

Traditional flood risk management approaches have been centred on structural flood defences such as floodwalls, which aim to keep floodwater away from vulnerable areas. Structural defences are restricted by high capital, maintenance and upgrade costs, and cannot be raised indefinitely in response to increasing risk.

Storm Desmond demonstrated to the people of Carlisle in December last year that what was built in response to the 2005 floods wasn't enough and that the 'new normal' was much higher water levels.

Rivers bursting cause sudden, short term and often devastating impacts to human life, which is naturally the Government's first

priority. However, groundwater, missed along with surface water impacts in the recent National Flood Review, leaves a much longer legacy to property and infrastructure; flood waters stay for longer and can easily re-occur infiltrating sewers and causing health concerns.

Understanding types of flooding

Flood systems are complex. You cannot assume that river flooding is the central cause of any event. Groundwater was responsible for background flooding in many of the major UK flood incidents. The rainfall volumes that lead to the extensive Thames Valley 2015 flooding were not extraordinary, but the subsequent height and

Is gravity greener?



The use of a pumping stations running night and day as a method of preventing backflow and internal flooding, is no longer the only way. The Hybrid Drainage Systems from KESSEL AG, from IPS Flow Systems, use the gravity slope of a waste water pipe under normal conditions, then seal the line and over pump, only when backwater occurs. The KESSEL systems provide year round protection, and peace of mind, while delivering noise nuisance reduction, cost savings through reduced maintenance, but most importantly they save energy, 'so gravity is greener.'

info@ipsflowsystems.com

Clearstone's for The Ashmiles



Clearstone's resin bound paving creates an aesthetically pleasing surface for The Ashmiles; an exclusive collection of new houses in West Sussex. Groundworks company Martin Joyc, needed a reliable company to take responsibility for both the

quality of the finished resin bound paving and the process, both factors crucial for groundworks contractors. Clearstone fit the bill. And to help, Clearstone's specifications, gave detailed instructions for the sub-base required for a resin bound surface with their in-house technical team always on hand to advise.

hello@clearstonepaving.co.uk



We Build It Ltd

simple solution sewage systems



- Suitable for homes without access to mains drainage
- Discreet solution to on-site sewage treatment
- 10 models in the range with a capacity up to 50pe
- CE Marked and EN 12566-3 Certified
- Uses the extended aeration method to treat sewage
- 96% efficiency allows a typical 3-5 year emptying interval
- Visually unobtrusive and odourless
- 25 year warranty on GRP & 2 year warranty on the air pump
- Deal direct with the UK Manufacturer

0800 731 9421 www.webuildit-ltd.co.uk

T-T

FLOOD CONTROL

The Flowaway® anti-flood valve is a simple yet effective backflow prevention valve.

- Suitable for **low lying areas** susceptible to flooding.
- Offers **protection** from **sewers back flow**.






The Floodbuddy® is a submersible emergency dewatering kit.

- Consists of a **stainless steel pump** with **built in level switch, check valve, mounting bracket, 10m cable** and **10m hose with anti kink sleeve**.
- **Plug and play product** that can be used anywhere that flooding occurs.



www.ttpumps.com
Tel: 01630 647200



Clearstone®

permeable surfacing



Clearstone are experienced and knowledgeable **specialist installation contractors of Resin Bound Surfaces**

Call **01273 358177** for technical advice, surveys and a quote

For case studies and portfolio visit
clearstonepaving.co.uk

SSIP
Accclaim
Constructionline

British Association of Landscape Industries
BALI

Constructionline

The Association of Professional Landscapers

ISO 9001
CERTIFIED



It's possible to build on flood plains, but until 'clever' building becomes the norm, restrictions based on flood zone guidance will remain

length of the flooding was as a result of a high groundwater signature that pushed river and catchment levels to record highs. And yet groundwater remains the least understood, the least managed of all flood risks, to property professionals.

As a company we aim to be at the forefront of groundwater modelling, flow and catchment analysis. We have been working with property professionals, insurers and local authorities to better integrate flood risk from all sources with drainage conditions to provide a more complete site analysis.

Architects typically carry out a site analysis as part of the development appraisal, however this would not normally include a Flood Risk Assessment. It is conceivable that an architect could be found negligent for not advising a client that the site was at risk of flooding and designing the property accordingly. Assessment reports need to ensure that site reports on flood risk from all sources, with a range of assessment levels depending on the complexity and flood zone the site is in. This can give architects the confidence to both advise clients appropriately and consider solutions that will pass muster at planning.

Designing-in flood control

We need to learn to live with water, understanding the effects and managing the consequences. There are a range of measures that flood victims and housebuilders are able to deploy to combat the destructive impact of future flooding catastrophes.

The first thing architects should consider is the nature of flood risk: how high does the water get, how quickly is it moving and is it ground, fluvial or surface water? The second course of action is to try to prevent that water getting to the houses in the first place.

This can be achieved by raising or re-profiling sites to push water away and create zones where excess water can be stored. Living areas could also be raised off the ground floor. While this approach is less desirable for the public, it is a viable as well as easily communicable way to prevent flooding.

Additional design features could include running electrics from the ceiling down the walls and specifying non-porous (not permeable to water) surface materials.

While it is entirely possible to build cleverly on flood plains, the practice is not being widely adopted. Yet until 'clever' building becomes the accepted norm, planning restrictions based on flood zone guidance will remain in place.

SuDS: unrealised potential

Surface water runoff can be managed better in an urban environment and there are plenty of good examples of sustainable drainage system (SuDS) implementation to help mitigate the speed of sudden surface water flow. However, the Government has stopped short of making SuDS mandatory in new developments as originally envisaged.

This has delayed SuDS' wider roll out as a key part of local surface flood mitigation and one that would do much to reduce the intensity of flood events into the rivers that already gets the Government's attention.

Despite this, addressing the role of SuDS in the sites drainage strategy at the early stages of planning with a client could put architects in a better position *vis a vis* Lead Local Flood Authorities and planning officers.

SuDS aim to manage surface water runoff in a way that mimics the natural water cycle. Features that slow and store water, like vegetated roofs and retention ponds, or increase infiltration like permeable paving and rain gardens can be imaginatively applied within existing and new developments.

Requirements for new developments to adopt SuDS were set out in the Flood and Water Management Act 2010. While SuDS have yet to be mandated for large developments, the House of Lords is pursuing a review, to be published next spring, that is likely to push again for this to happen.

The 2010 Act created Lead Local Flood Authorities to scrutinise and set infiltration and attenuation standards so that the development does not exacerbate flooding elsewhere. This can play a more effective role in managing surface water runoff as close to its source as possible. The less water flowing into traditional drainage to water courses, the less 'flash' discharge into river channels.

Lead Local Flood Authorities are now very active with planning officers to review applications, especially in flood-sensitive locations. They can apply specific conditions on surface water infiltration (absorption into the soil) or attenuation (slowing the flow of surface water) accordingly.

GeoSmart has developed a national SuDS soil infiltration map that provides property professionals with clear guidance on site conditions for SuDS suitability.

This helps them engage with planning authorities to make sure that flood risks can be mitigated through appropriate SuDS measures on site.

Stuart Pearce is managing director at GeoSmart Information



Landmark high-rise supplied by Hueck

Another successful collaboration between aluminium building systems supplier, **Hueck UK**, and facade contractor McMullen Facades Ltd has recently seen the completion of one of south west London's new landmark buildings, The Pinnacle. Rising 170 feet high, the tower construction delivers 88 new luxury apartments, including a number of penthouses, with impressive views of the City. The Pinnacle's fully glazed curved facade has been manufactured using the high performance Trigon L aluminium system from Hueck. Highly versatile, this unitised facade system lends itself to a wide variety of curtain walling designs. Approximately 1,300 unitised panels shape The Pinnacle's striking curved envelope. Aside from Trigon L, the building also boasts nearly 180 Lambda 65 windows and doors. Featuring low thresholds, the doors comply with the Life Time Homes standards, and achieve an impressive 600Pa air permeability/water tightness. Hueck's popular Volato M lift/slide doors have also been specified.

01217 671344 www.hueck.com

Timber cladding achieves harmony

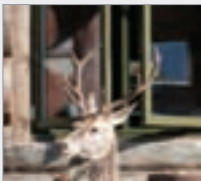


Silverwood Inspire timber cladding from **A. Proctor Group** has been selected for an impressive waterside development in the rural village of Marsworth in Buckinghamshire. Hyatt Construction chose Silverwood Inspire timber cladding in an Onyx Black shiplap tongue and groove finish for a modern aesthetic

look. Silverwood timber cladding is regularly specified because of its proven performance, backed by a comprehensive 10 year paint finish guarantee, and its durability of up to 50 year as a result of the timber treatment and Silverwood factory applied paint finish.

01250 872261 www.proctorgroup.com

NorDan contributes to Tourism Award



The Lewis Longhouse has won 'Best Green Holiday Home' in the European Holiday Home Awards 2016. The Lewis Longhouse, owned by Linda & Paul Brown, was chosen as award-winning from dozens of other holiday homes from right across Europe. By taking advantage of new technologies and materials, the owners recreated a vision for

the traditional Lewis longhouse for the 21st century. The design has the latest PV panels, air-source heat pump and high-performance timber windows from NorDan.

01452 883131 www.nordan.co.uk



Sion maintenance depot, Switzerland

When Design Matters the Doors are Hörmann

- Widest range of Industrial doors in the UK
- Precision German engineering
- Excellent security and outstanding reliability
- Award winning technology and advanced systems

HÖRMANN
Garage and Industrial Doors

Structural glazing: Reshaping the modern skyline

As technology evolves, glass continues to be seen at the core of many exciting and iconic buildings, enabling architects to achieve their goals. Phil Savage of Pilkington discusses the growing importance of glass in modern building design

A look across UK's big cities reveals a horizon peppered with construction cranes. From high-profile commercial office towers to prestigious residential developments, our skylines is changing fast.

Architects continue to incorporate glass into their designs to make a statement in the built environment. Iconic buildings across the world, from The Louvre in Paris to London's Gherkin, are a powerful example of the physical and aesthetic effect the material can have on the urban landscape.

The ability to create larger and more impressive glass structures over the years has developed in line with technological and engineering improvements, and arguably one of the most significant architectural innovations of modern times has been the development of structural glazing systems.

These enables architects to design buildings as if they are solely made of glass, allowing for more imaginative and visually striking alternative to traditional brick, timber or steel-reinforced concrete.

How it works

The structural glazing systems available on the market today typically work by using stainless steel fittings that are countersunk into recesses in the corners of the glass, allowing strengthened panes to stand otherwise unsupported. The glass is then fixed to the structure of the building itself, rather than being fitted within traditional and sometimes view-restricting frames.

With a range of options available, architects are able to choose the system that best suits the specific criteria of their installation and ultimately allows them to create their desired finish and performance. Glass-fin (mullion) units, for example, are among the most popular where a seamless finish is required.

The use of glass fins eliminates the need for



traditional metal mullions, which can restrict the view from inside a building. The transparent fins support the vertical facade and provide additional strength and integrity against the elements. Stainless steel fittings hold the structural elements together to create a strong, secure building envelope without compromising on the transparency or the external view.

Added performance

As well as being a popular choice among architects for the aesthetic results it can create, structural glazing also offers a number of other benefits too. Advances in coating technology mean that glass can increase a building's energy-efficiency, helping to control its temperature or reduce glare.

If the facade is south-facing, for example, solar control glass can help to prevent overheating inside a building, and reduce the expense of running air-conditioning units. Today's technology also means glass manufacturers can now produce solar control glazing with very high levels of transparency, which allow maximum levels of daylight to be transmitted into the building without compromising on performance.

On the flip side, in colder climates where keeping buildings as warm as possible is a priority, structural glazing systems can employ the latest low-emissivity technology to achieve near-optimal thermal efficiency. The same system can also be double- or triple-glazed for even better thermal performance.

The glass structures designed and built today are on a larger scale and are visually more impressive than ever before

Not only does this maximise internal comfort levels but it also helps to reduce the cost of energy bills.

Redefining the potential of glass

Advancements in technology and improvements in engineering have meant the glass structures designed and built today are on a larger scale and are visually more impressive than ever before.

As we continue to see developments in this area of the built environment, and as glazing systems evolve with these changes, the material's potential will continually be redefined for architects, and it will play a key role in the creation of high-performing, sustainable cities of the future.

The atrium of a commercial building is clearly one of its key selling points. It is often the building's first impression with prospective investors, tenants and other visitors, so it needs to impress.

It was with this in mind that developer Boston Properties and architect Duda Paine Architects specified the 10-storey, almost 35-metre tall glass facade that fronts the atrium at its landmark 601 Massachusetts Avenue project in downtown Washington DC. The building is a substantial new visual statement in the capital that brings glass to the fore.

The objective was to create a wall of glass that delivered maximum transparency with minimum vertical elements, so that the whole atrium felt as much like an outdoor space as possible.

This was achieved using the Pilkington Planar point-supported glazing system to secure panes of up to 1.5 m by nearly 3.5 m of 12 mm Pilkington Optiwhite true low-iron glass to a series of 26 m-wide one-piece horizontal trusses spanning the atrium. Additional vertical support was provided by low-profile stainless steel tension rods. A total of 970 m² of glass

was used, weighing around 29 tonnes.

The low iron content of the glass means it has exceptional clarity without the pale green tint present in standard float glass. The clean lines were further enhanced by ensuring the glass was manufactured within extremely tight tolerances in terms of roller-wave distortion – the maximum 'peak to trough' variation allowed was just 0.02 mm, creating an almost perfectly flat surface to ensure undistorted reflections of the building's surroundings.

The stainless steel bolts that connect the glass with the structure sit perfectly flush with the glass, maintaining the uninterrupted surface.

The multi-million dollar Massachusetts Avenue development features 44,400 m² of high quality office space. The scheme has received Leadership in Energy and Environmental Design (LEED) Gold certification, demonstrating environmental responsibility across the design, construction, operation, and maintenance of the building.

Phil Savage is commercial sector manager at Pilkington United Kingdom



Working in the light

Designed by DarntonB3 architects, this 23,000sqm facility is the new HQ for Airedale International Air Conditioning in Leeds. The production facility is a stunning example of the way in which the Kalwall® translucent daylighting system from Structura has been used in combination with Kalwall panel unit windows. It includes a state-of-the-art test centre and training school regarded as a worldwide hub of excellence for air-conditioning. The dramatic linear simplicity of the design projects real impact on the entrance facade while the architects have configured the levels of the site so that the main mass is concealed from public view and all aspects of manufacturing are kept on a single level. Sustainability is also fundamental to Airedale's core strategy which has been translated into a BREEAM rating of 'Very Good' for the building. Unlike conventional glazing, highly insulating Kalwall eliminates shadows and glare and the stark contrasts of light and shade.

mail@structura.co.uk

WEDGE GROUP GALVANIZING

Your Galvanizing Partner

- Quality approved Galvanizing
- Technical support and advice
- See the process in action and take your CPD
- 14 plants across the UK offer you a national service
- We galvanize steel from 1.6mm to 29m long

Excellence in Galvanizing

E: galvanizing@wedgegalv.co.uk
T: 01902 600704 www.wedgegalv.co.uk
@wedgegalv

GALVANIZERS ASSOCIATION

Head Office: Stuffed Steel, Warrad, West Midlands, W13 3RZ

Too much of a good thing?

John Godley, technical manager for Hambleside Danelaw explains the importance of manufacturers providing relevant, specific and independent transmission values for rooflights



The provision of natural daylight within the built environment can deliver genuine, positive benefits to the finished construction; benefits that can enhance the financial and environmental performance of the building in service, benefits that can improve the internal environment and make it a better, more pleasant place to be. Benefits that can make a real, measurable contribution to the Government's original target of project carbon neutrality for non-domestic buildings by 2019.

While considering the daylighting plan of any building, particularly relatively lightweight buildings such as those with metal clad envelopes, designers need to remain aware of the potential for overheating caused by excessive solar gain where there is no adequate ventilation strategy, or where there are significant heat gains due to internal processes. The design of the building and provision of rooflights has to balance several factors, in particular the perceived conflict between providing daylight and the associated energy savings together with the risk of overheating.

For any building, there is an optimum target percentage of rooflights which will deliver the optimum level of natural daylight into the building, making the optimum saving in energy usage and costs. Beyond that point, solar gain can add to the energy consumption if powered cooling systems become necessary. In high internal volume industrial buildings, the most appropriate, but uncontrolled action, to counter overheating in the building will often be to increase the ventilation by opening doors.

The 'g-value' is a measure of the total solar heat energy that passes through a window or rooflight, most of which is directly transmitted through the material or construction in the visible light spectrum. Total solar heat gain includes directly transmitted solar heat and absorbed solar radiation, which is then re-radiated and conducted into the space. For this reason, the solar heat transmission correlates closely with light transmission. If properly considered at the design stage and well managed during the building's service life, in a relatively temperate climate such as the UK, passive solar gain usually provides a benefit for most of the year, with the overheating effects only being a consideration for the hottest few weeks of the summer months.

A study by De Montfort University concluded that the optimum rooflight area for minimum energy consumption is generally in the region of 15 per cent to 18 per cent of the buildings floor area, for a large single storey industrial type building. If wall-lights are being considered, then the figure can be increased to 20 per cent. A National Association of Rooflight Manufacturers (NARM) study commissioned with Oxford Brookes University concluded that evenly distributed rooflights up to 20 per cent of the roof area can be used without significant solar overheating.

Section 12: Lighting of HM Government's *Non-Domestic Building Services Guide 2013* edition states that for a space below rooflights to be classed as 'daylit', the rooflight area should be at least 10 per cent of the floor area with light transmittance at least 70 per cent. If the transmittance is below 70 per cent then the rooflight area should be increased proportionately.

Notwithstanding this, Criterion 3 in Building Regulations Approved Document L2A requires the effects of heat gains in summer to be limited

to reduce the need for air-conditioning, or the energy consumption of any air-conditioning system that is installed. For buildings defined in the National Calculation Methodology database as 'top lit', those whose zone height is less than 6m, a total of 10 per cent rooflight area with a framing factor of 25 per cent and a g-value of 68 per cent is recommended. For buildings whose zone height is greater than 6m, the rooflight area increases to 20 per cent with a framing factor of 15 per cent and a g-value of 46 per cent to go some way into taking account the effects of stratification, or the effect of internal temperatures being cooler at lower level occupied spaces.



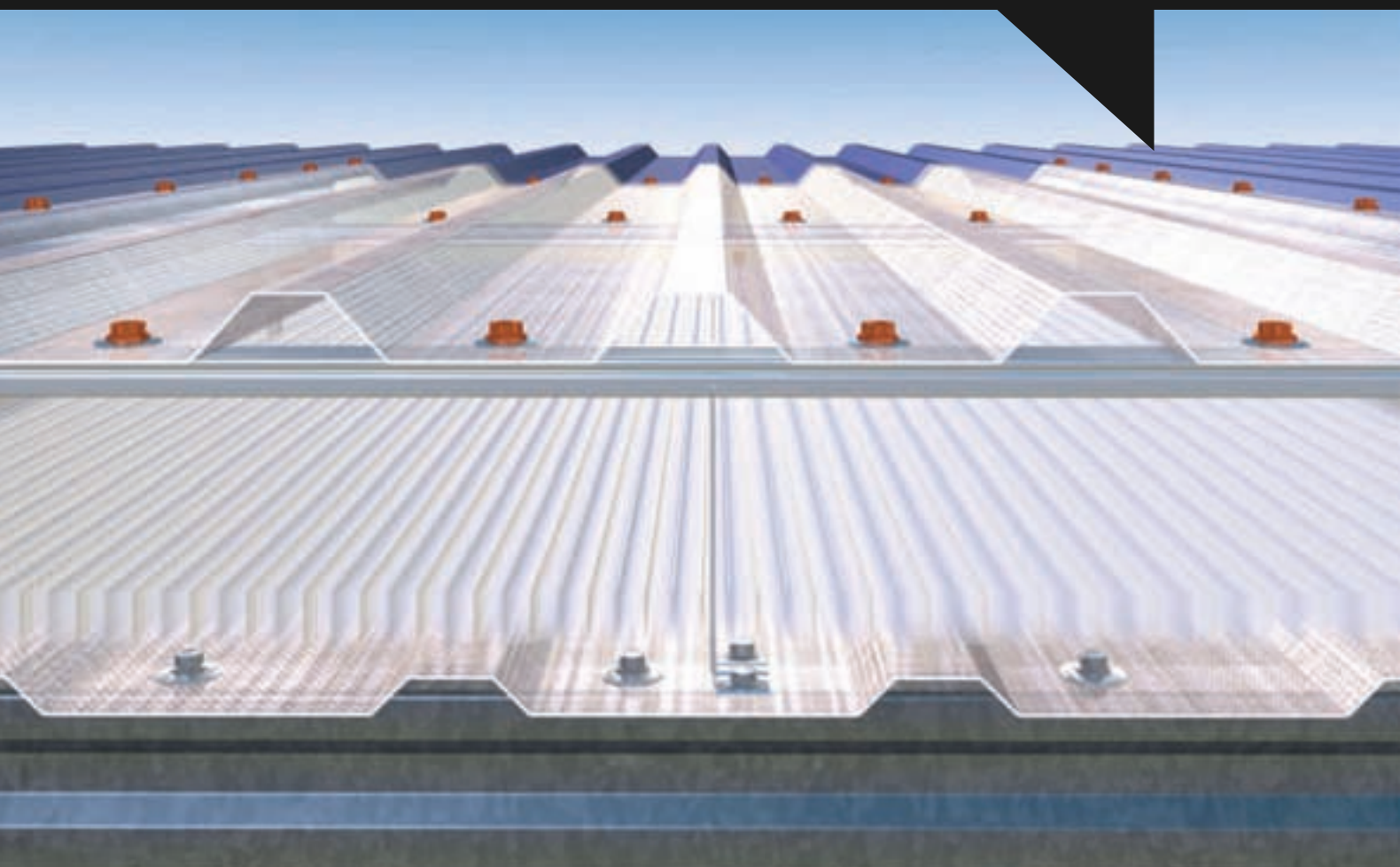
These recommended rooflight areas are calculated making certain assumptions on a limited range of light, thermal and solar transmission values for rooflights, whereas the designer has the freedom to specify a wider variation of product to meet the specific needs of the building. It is therefore recommended that the designer uses the data provided from the manufacturer, obtained through responsible independent physical testing. In the absence of any specific BS or EN standard governing the measurement of solar energy transmission through 'plastic' type rooflights, there is a clear need to ensure that the information provided on this issue by rooflight manufacturers, is relevant and specific. Hambleside Danelaw use full solar spectrum transmission data from physical testing by The National Physical Laboratory calculated in accordance with BS EN 410 for all rooflight assembly data produced

01327 701 900 www.hambleside-danelaw.co.uk



ZENON EVOLUTION

Zenon Evolution, the truly
low carbon rooflight



Hambleside Danelaw
Rooflights



Hambleside Danelaw Limited

Long March, Daventry, Northamptonshire, NN11 4NR

T: 01327 701920 F: 01327 701929

www.hambleside-danelaw.co.uk

E: sales@hambleside-danelaw.co.uk





Custom skylights for architectural design integrity

Em-Glaze bespoke delivers industry-leading performance while staying true to the architect's vision.

At Whitesales, we know environmental considerations can mean watering down designs, or tainting perfect lines with obtrusive rooflights. With Em-Glaze bespoke, there's no need to compromise.

- ✓ Unspoilt building design – slimline, low-profile aluminium frames
- ✓ Healthier spaces – up to 78% natural daylight transmission
- ✓ Almost limitless shapes and sizes – choose flat glazed, monopitch, ridgelight, latern light, gable end, hip end and more
- ✓ Outstanding thermal performance – U-Values as low as 0.99 W/m²K
- ✓ Comfort cooling – choose passive ventilation or controllable rotating vents
- ✓ Optional roof access & fire escape – manual or electrically-operated hinged opening

Multiple glazing options available, solar control and easy clean features, plus frames in any standard RAL colour.

Discover more at www.whitesales.co.uk/bespoke-glass-rooflights
or contact us: 01483 271371 or design@whitesales.co.uk



Whitesales®
Rooflights & more...

Two-phase enhancement programme



Schueco UK is undertaking a two-phase development of its highly successful AWS outward-opening window range. The first phase sees the introduction of new profiles and fittings to increase the number of opening variations. Among the latter are new double outward-opening windows

without a central fixed mullion but with continuous centre seals. With sizes up to 2000mm wide x 2500mm high for double and 1000mm wide x 2500mm high for single vent windows, the system offers exciting new fenestration opportunities.

01908 282111 www.schueco.co.uk

New slimmer profile for sliding door

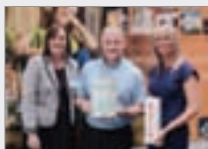


Sapa Building Systems has introduced a new slimmer profile to its already successful Crown Sliding Folding Door, offering improved contemporary aesthetics and greater choice for customers. An addition to the existing Crown range of doors, the slimmer 59mm profile depth has been

designed with a contemporary look in mind. Allowing more light to flood living spaces while maximising uninterrupted views, the new door also offers greater thermal performance. The continuous hinge allows the door to fold and slide easily.

01684 853500 www.sapabuildingsystems.co.uk

25 years of partnership



2016 marks a milestone anniversary for Epwin Group and Profile 22 customer Total Glass. Since 1981 Total Glass has been manufacturing and supplying Profile 22 products. Total Glass manufactures in excess of 2,500 frames per week for its UK-wide customer base. Hailed as the

biggest launch in the window industry for a decade, Profile 22 revealed the Optima range earlier this year and the response has been great. A fully-integrated, 70mm-depth system, it's easy to install and suitable for a wide range of projects.

mail@profile22.co.uk





Architects Datafile website



The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital

issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

www.architectsdatafile.co.uk

follow us:    

THE SAFER CHOICE
FOR FIRE RATED GLASS

- > FIRE DOORS
- > GLAZED PARTITIONS
- > SCREENS
- > INSULATED GLASS UNITS
- > POLISHED OR WIRED

UK NORTH EAST SOUTH SCOTLAND INTERNATIONAL

Fire Glass
UK

SPECIALISTS IN FIRE RATED GLASS AND GLAZING
tel 0121 521 2180 email info@fireglassuk.com
www.fireglassuk.com



VMZINC® building envelopes

A vast array of possibilities

VMZINC offers a wide range of systems ranging from standing seam roofs to composite rainscreen cassettes. These different options can then be further complemented by an equally wide range of finishes. The world's first engraved zinc, AZENGAR®, is a recent addition to QUARTZ-ZINC®, ANTHRA-ZINC® and the PIGMENTO® range.

www.vmzinc.co.uk

Call 01992 822288 for more information, literature or samples.



Spectus supports seaside elegance



The new owners of a 19th Century mock Tudor Bed & Breakfast and tea room in Norfolk have established a 'five-star' reputation in everything from their extensive renovations to the decor. The choice for the windows was the unmistakably authentic look of the

Spectus Vertical Slider system in white foil. The Spectus Vertical Sliding Sash is recognised as an industry leader not only in its authentic looks but also its performance and versatility. It can achieve BFRC 'A' Rating with conventional 24mm double glazed units.

marketing@spectus.co.uk

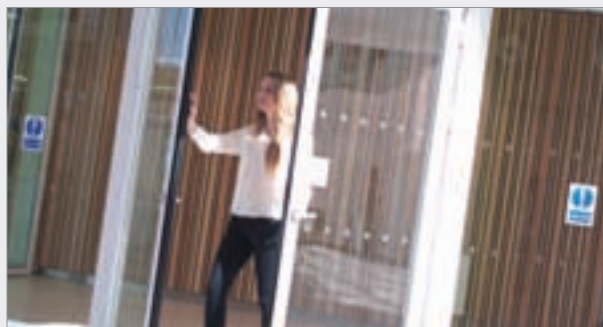
Steel window refurbishment gives life



A landmark on London's Tottenham Court Road, the Heal's building is Grade II* listed. When it came to a major refurbishment and refit of the upper floors, Steel Window Association member, Associated Steel Window Services, was appointed to undertake the work of

assessing, renovating and, where necessary, replacing more than 90 of the building's windows. All new windows were hot dip galvanised and polyester powder-coated while original windows were redecorated by the team from ASWS.

info@steel-window-association.co.uk



Gilgen fire rated automatic door

The intelligent design of the new Gilgen EI30 fire protected sliding door system from Gilgen Door Systems provides three-in-one functionality for a wide range of applications. During normal day-to-day use the system provides all the advantages of a high quality Swiss designed automatic door, with reliable contact-free access. But in the event of fire EI30 provides a reliable barrier that helps divide rooms into fire compartments, its heat shield delivering protection for up to 30 minutes. EI30 also limits the distribution of smoke giving pedestrians more time to escape and reducing smoke damage. Break-out functionality enables the sliding door leaves to be swung open manually like a normal hinged door to guarantee easy escape and provide access for emergency services. An integrated closing mechanism ensures the door shuts again resuming its role as a fire barrier once it has performed its emergency exit function.

0800 316 6994 www.gilgendoorssystems.co.uk

THE CLEARER CHOICE FOR SAFETY GLASS

- > EXTERIOR SHOP FRONTS
- > CURTAIN WALLING
- > OVERHEAD GLAZING
- > FULL-HEIGHT BARRIERS
- > LOW-LEVEL GLAZING

UK NORTH EAST SOUTH SCOTLAND INTERNATIONAL

Fire Glass UK

SPECIALISTS IN FIRE RATED GLASS AND GLAZING
tel 0121 521 2180 email info@fireglassuk.com
www.fireglassuk.com

A beacon in West London for living and working



The Collective Old Oak is the world's largest co-living space and forms a new hub for urban professionals in West London. The design by PLP architects creates a new hybrid typology, redefining the architecture of living and working to suit the unique community of people.

The building takes the form of two slim volumes sitting on a large podium and sliding across one another and centred on a central core. This central hub increases opportunities for interaction between residents, and makes circulation between floors as simple as possible. The building's upper stories are lifted up above a public plaza facing onto the canal by a dramatic branching column in fire engine red.

A series of unique amenity spaces fills the central hub to be used by all the building's residents. A games room, spa, secret garden, cinema, library and disco launderette, many of which are directly connected to adjacent communal kitchens, which offer facilities above the kitchens in individual units. A key element of the design is the windows at the

ends of each connecting hall which provide views out over the surroundings. The building is clad in glass which reflects the lighting conditions at any given time of day. The ALUCOBOND® cladding in signal grey and mouse grey supports the modern appearance. The luminescent structure shines on the skyline as a beacon of the area's regeneration, and as a thesis for the future of collective living.

Paul Herbert, Specification Manager
Richard Geater, Sales Manager
www.alucobond.com

07584 680263
07584 680262

COLLECTIVE OLD OAK EALING, UK

Facade material:	ALUCOBOND® plus Signal Grey + Mouse Grey
Construction type:	Cassette screwed
Planning (architect):	PLP Architecture
Fabricator/installer:	Booth Muirie/Prater
Year of construction:	2015
Copyright pictures:	Richard Gooding





FLITCRAFT ECOBUILD
The timber frame specialist

A World of Beauty, Quality & Exceptional Design

- 90mm and 140mm Injected panels
- Very Low U-Values we are reaching 0.11 W/m²K in our wall panels
- Green Guide A/A+ sustainability and environmental credentials
- Quality control checks at all stages of production
- Can negate the need for conventional 'central' heating
- Low air permeability, helping with air tests
- Suitable for all types of architecture
- Reduces overall production time
- Available for walls, roofs and floors
- Not restrictive on building designs
- Compliance with latest planning requirements
- Excellent acoustic performance

TRADA

FLITCRAFT ECOBUILD
Tansmore Hall Business Park, Tansmore Lane,
St Michaels, PROCEZ
Tel: 01995 479444 • Fax: 01995 479769
Email: info@flitcraftecobuild.co.uk
Website: www.flitcraftecobuild.co.uk



Follow us: f t in

THE UK'S ONLY CHOICE

FOR **SPECIALIST GLASS**

- ✓ Fire Rated Glass
- ✓ Acoustic Glass
- ✓ Insulated Glass
- ✓ Laminated Glass
- ✓ Toughened Glass
- ✓ Glass for Partitions
- ✓ Screens
- ✓ Wired Glass
- ✓ Glass for Fire Doors
- ✓ IGUs for Composite Doors
- ✓ Heritage Units
- ✓ Mirrors (Silvered Glass)
- ✓ Installation Services
- ✓ Fast Delivery Service

0121 521 2180
info@fireglassuk.com

SPECIALISTS IN FIRE RATED GLASS AND GLAZING

Fire Glass UK

LOCAL BRANCHES

UK	NORTH	EAST
0121 521 2180	01441 726 8080	01773 712 920
SOUTH	SCOTLAND	INSTALLATION
01206 222 090	0131 526 4141	0121 521 2180

www.fireglassuk.com

Reynaers brings simplicity and strength to Paris' horizontal skyscraper

The redevelopment of Paris' Macdonald Warehouse has transformed an urban logistics building into a vibrant and contemporary neighbourhood, using bespoke glazing systems from Reynaers.

This project integrates into The Grand Urban Renewal Project; Paris' wider efforts to provide more homes and inject life into neglected areas that are cut off by industrial facilities and infrastructural networks. An industrial barrier in itself, the 'Macdo' was designed in 1970 by Marcel Forest. The impressive structure spans over 600m in length, earning it the nickname 'une tour couchée', or 'the horizontal skyscraper'

Pleated facades

Key factors in specifying a range of Reynaers products for lots N5 and S6 of the design were performance, costs and technical evaluation. The CF 77 system combines high insulation

and comfort with visual appeal. It is a highly versatile product, with a range of available opening types and threshold solutions. The folding elements with hidden gaskets create a particularly clean appearance, proving to be both efficient and aesthetically pleasing for ceiling-high, foldable doors.

The clean, sharp design of Reynaers windows integrates perfectly with the rhythmically extruded facades. This pleated facade was designed by FAA and XDGA, which wraps around the entire ground floor, the bridge building across the tramline as well as the exterior spaces and two blocks of assisted rental housing.

Desenclavement

A key concept in the renewal project is *desenclavement*, or 'opening up,' making the area less isolated and more accessible.

With the residential aspect divided neatly



into private and social housing, aesthetic standards ensure that no visible distinction can be made. As one of the biggest "live, work, play, shop" venues in France, the Macdonald Warehouse will offer more than 1,000 homes, expansive space for offices, shops and communal activities as well as two schools, a gymnasium and a bank across an incredible 210,000m² of floor space.

0121 421 1999 www.reynaers.co.uk

Expertise and plant capability secured contract for Powdertech



Powdertech (Corby) Ltd has demonstrated its expertise in metal finishing on both steel and aluminium in the exciting Dickens Yard development, Ealing, West London. As specialists in architectural metal finishing, Powdertech coated all of the steel balconies and balustrade on the site, and many sections of aluminium facade. Dickens Yard has been developed on the site of a former council car park in the centre of Ealing. It is termed a 'high density, mixed use' development, with shops, cafes, restaurants, health and leisure facilities at street level. Sitting directly above these are over six hundred residential apartments with landscaped courtyards, terraces and balconies. Powdertech powder coated over 70 galvanised steel balcony bases and 500 metres of aluminium glass channel in Axalta RAL7039 matt grey polyester powder, providing corrosion protection and colour for twenty five years. In addition, posts for over 500 metres steel balustrade were coated in Valspar RAL7012 matt grey. Ealing is identified as one of London's major metropolitan centres in the London Plan and Dickens Yard reflects that vision.

01536 400890 www.powdertechcorby.co.uk

Turners' High performance cold storage depot to feature ISD Solutions



A new super energy-efficient cold storage warehouse extension for Turners (Soham), one of the UK's leading temperature controlled storage and distribution companies, is to feature a state-of-the-art insulated single envelope designed and installed by composite panel specialist ISD Solutions. Forming the weathered external skin of the building, this will be the first UK chilled distribution warehouse to incorporate Kingspan's latest IPN-QuadCore technology, a new insulated panel core which delivers a thermal improvement of up to 20 per cent over standard PIR insulated panels. Located at Turners' existing site near Boston in Lincolnshire, the 5,500m² extension will provide capacity for 5,500 pallets, plus packaging space and loading docks, all chilled to 1°C. It is led by project designers FJB Systems, who have formulated a range of features to meet Turners' environmental goals. These include the use of natural refrigerants and reclaimed heat and rain water harvesting to provide all grey water requirements, LED lighting and controls to reduce energy consumption, roof top photovoltaic panels and rapid doors.

01452 520649 www.isdsolutions.co.uk

Bridging the performance gap

The movement to build 'eco' has led to greater focus on the importance of insulation, but the industry needs to ensure projects are built 'as designed' says Recticel's Peter Wilcox

The final Evidence Review Report produced by the Zero Carbon Hub revealed a gap between the designed and as-built energy performance of new homes. Poor installation of domestic services, incorrect construction of building fabric and sub-standard implementation of site quality assurance procedures are among the reasons attributed to the gulf between anticipated and actual thermal readings.

The Hub (which ceased operations in April) was originally tasked by the Government to help deliver zero carbon UK homes. This policy was however scrapped by the UK Government in 2015 which led to the ending of the body tasked with instigating it.

However in the Zero Carbon Hub's report, it cited the issue of products being installed with energy performance different to the intended design as a reason for a building's thermal efficiency falling short of expectation. This issue requires manufacturers' urgent attention if the Government is to succeed in its ambition to demonstrate at least 90 per cent of all new homes meet, or perform better than, their designed energy/carbon performance by 2020.

Ensuring lower U-values

Polyisocyanurate (PIR) insulation panels satisfy two vital factors for designing effective insulation for new and existing buildings to perform as designed – low thermal conductivity and durable performance. We have harnessed these low-energy long-term properties to create a 'next generation' prefabricated room-in-a-roof system. Capable of being installed in a matter of hours, it enables safe and fast installation of a watertight structure while offering U-values of between 0.13 and 0.19 W/m²K – therefore capable of ensuring Passivhaus levels of airtightness.

Breather membrane, counter battens and integral structural timber, along with high performance PIR insulation, are all combined into lightweight cost-effective



PIR insulation is increasingly being viewed as the practical, long-term solution to energy wastage



A home in the New Forest was the first to use the prefabricated system

modular roofing panels. Assembly involves vapour-permeable underlay felt being pre-glued with self-adhesive overlaps. Counter battens are fixed to the panel while the multi-layered facings act as a vapour and air barrier on the inside. Timber rafters incorporated within the core offer strength for self-support. During the production process, foaming takes place around the rafters which means the panels are completely airtight as well as highly vapour resistant.

New-build solution

A recent innovation to the UK construction market, the system was specified and installed at an eco-house in the heart of Hampshire's New Forest. The 200 m² detached, four-bedroom home located in Burley was designed and built by architect Nick Lacey using passive and active solar techniques and is the first house in the UK to use the L-Ments prefabricated system. The architect specified its use as he required a rapid-build, thermally-efficient roofing system to fully waterproof the partially-built home and accelerate construction.

Nick Lacey said: "The roof's prefabri-

cated element was key to its specification as I urgently needed to speed up building works on this project. It is built for rapid installation as well as containing all the necessary thermal properties to ensure the completed house meets the near-zero carbon standard."

Cutting fuel costs

Ultimately, it's the homeowner who pays the price for a building's thermal inefficiency. The average UK household spends around £1,230 on fuel bills each year which can be up to 50 per cent more than is necessary due to the lack of energy-saving measures being implemented in the home. High performing PIR insulation is increasingly being viewed by specifiers as the practical, long-term solution to energy wastage.

Innovative systems, such the prefabricated room-in-a-roof system we have developed, have added another dimension to insulation in terms of how it can be applied and the overall thermal result it can help to achieve.

Peter Wilcox is a development manager at Recticel Insulation



“

The objective of this seminar is to offer a brief update on recent developments in building science, with an emphasis on airtightness in buildings and its importance for energy savings and moisture vapour transmission. The author's Canadian perspective also provides a look at how these issues are handled elsewhere

”

Greentherm Solutions

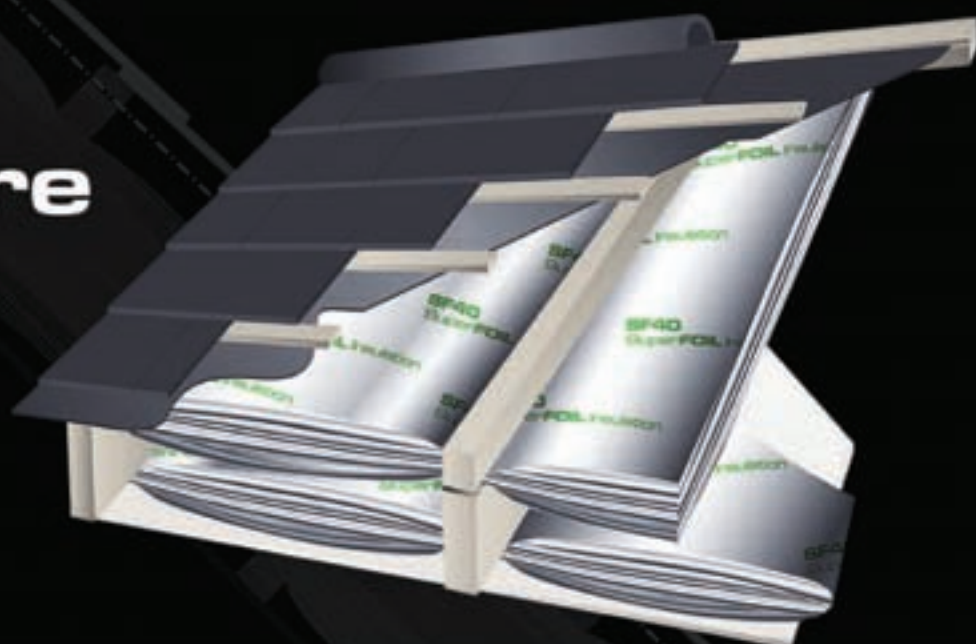
Contact us today on
01229 716039, email
sales@lcynene.co.uk or
visit **www.lcynene.co.uk**
to find out more



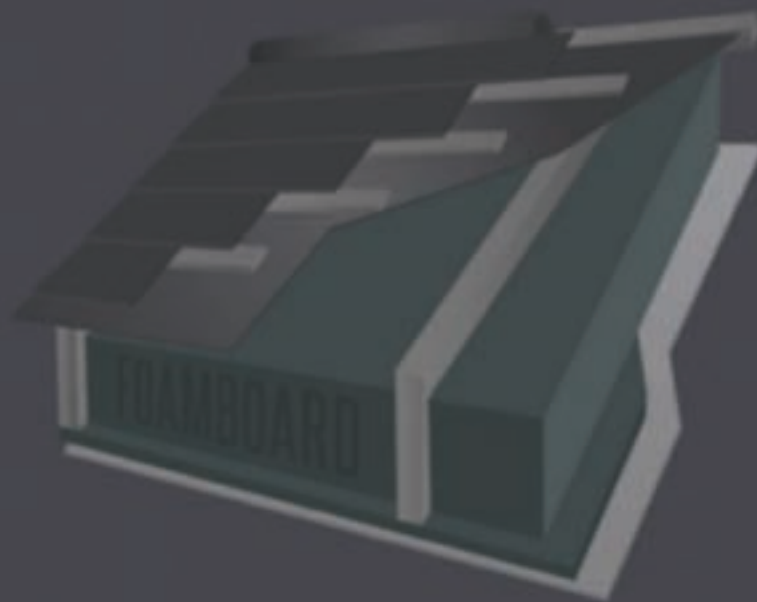
CPD Course: Control of Air Leakage -
Referencing Part L of the Building
Regulations by Icynene Spray Foam
Insulation System

Super**FOIL** Insulation

The Future
U - 0.13



The Past



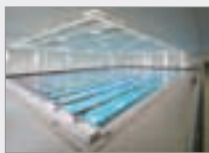
WHICH WILL YOU CHOOSE?

Super**FOIL** **SF40**

01636 639900

www.superfoil.co.uk

Aquatic Centre benefits from Sto



The latest phase of a major sports village development has been completed with the inclusion of an acoustic attenuation system from Sto. The £18.2M Aberdeen Sports Village Aquatic Centre now features seamless StoSilent Distance acoustic systems in both its Diving Pool and Main

Pool. The StoSilent acoustic ceiling solution chosen for the Aquatic Centre is designed especially for demanding environments such as swimming pools. It is based on a StoSilent suspended grid made from steel, which was specially coated to protect against corrosion.

0141 892 8000 www.sto.co.uk

Kingspan TEK beats the snow



The Kingspan TEK Building System has been installed as part of a luxury ski chalet in the French Alps, helping the project to be completed within the tight schedule of the building season. 400m² of the Kingspan TEK Building System was specified to complement

the green oak frame. The System comprises of structural insulated panels (SIPs), which are pre-cut to each project's exact specifications, limiting on-site alterations and waste. This bespoke approach, combined with the panelised system construction, helped to maintain the fast and predictable installation programme needed.

01544 387 384 www.kingspantek.co.uk

Kingspan supports luxury development



The Kooltherm FM Pipe Insulation System from Kingspan Industrial Insulation has been installed on the exclusive Fitzroy Place development in Fitzrovia, London. With industry leading thermal conductivities as low as 0.025 W/m-K, Kooltherm FM Pipe Insulation

provided a slim-line solution for reducing heat transmission from the pipework. This gave the installers more room to work when fitting the product in tight areas and allowed the clean, high quality aesthetic of the internal spaces to be maintained.

01544 388 601 www.kingspanindustrialinsulation.com

Waterfront student accommodation



Kingspan Kooltherm K15 Rainscreen Board from Kingspan Insulation has been specified as part of a new £42 million purpose built student accommodation project in Portsmouth, due to its outstanding thermal

performance and ability to meet the stringent fire performance requirements for the project. Cooley Architects' design uses coloured Alpolic ACM cladding to form an eye-catching cube at the top of the building. Kingspan Kooltherm K15 Rainscreen Board was installed as part of the rainscreen facade system

01544 387 384 www.kingspaninsulation.co.uk

Introducing... Ignis Protect

The new wall pass thru' system for air tight & energy efficient timber framed buildings.

Ignis Protect is suitable for SW and DW connecting flue pipes passing through interior or exterior walls made of combustible materials.

FEATURES

- For flue gas temperature up to: 450°C for SW connecting flue pipes 600°C for DW connecting flue pipes
- Max. 100°C surface temperature
- Monolithic component made of mineral wool (building material class A1)
- Removable pipe sections
- No additional protection necessary
- Available in 90° and 45° versions

Full details at: www.schiedel.co.uk

Follow SchiedelUK on:

WINNER OF BEST PRODUCT AWARD
HEARTH & HOME EXHIBITION 2015

The first name in spray foam insulation



The Icynene Insulation System is a series of soft, flexible, vapour open spray foam insulation products. When sprayed in place Icynene expands to completely fill all cavities and voids creating a sealed building envelope eliminating air leakage. Unlike other foams, Icynene is 100 per cent water blown and

therefore contains no harmful blowing agents, volatile organic compounds, HCFCs, HFAs, HFCs or formaldehyde. Icynene has been successfully tested and certified for application directly to the underside of breathable and non-breathable roof membranes.

info@icynene.co.uk

Architects Datafile website



The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital

issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

www.architectsdatafile.co.uk

Underfloor heating explained

When it comes to underfloor heating, you need a reliable system that is guaranteed to last the lifetime of the tile or stone covering. The two main types of system that are available include an electric system and a water based (hydronic) system, Schlüter-Systems provide an effective, innovative solution for both of these.

The electric system, Schlüter®-DITRA-HEAT-E

Schlüter®-DITRA-HEAT-E can be used in kitchens, wetrooms, bathrooms, en-suites and anywhere that tile and stone is to be installed. Due to the intelligent digital touchscreen thermostat you can easily control temperatures and heating times, creating warm tile and stone whenever and wherever you chose.

It is super quick to install as the uncoupling mat was designed with unique studs to allow the tile adhesive to mechanically lock into the dovetails. The cables fit directly between the uniform studs without the need for glue, tapes, marking, self-levellers and primers – therefore reducing the likelihood of mistakes, saving time and money.

Schlüter®-DITRA-HEAT-TB is the latest addition to the award-winning Schlüter®-DITRA-HEAT-E underfloor heating range. The integration of a thermal break fleece on the underside of the uncoupling membrane pushes 80 per cent of the heat to the surface for up to 70 per cent faster response time on concrete compared to other electric underfloor heating systems.

Main benefits of using the Schlüter®-DITRA-HEAT-E system include:

- Easy press to lay cable – no tape or glue
- No self-levelling layer or primer laying – time saved on application
- CE Marked waterproofing simply by sealing the matting joints and connections
- Loose heating cable – greater flexibility
- Uniform spacing – even heat distribution
- Rapid heat response with Schlüter®-DITRA-HEAT-TB matting
- Can be tiled immediately – no waiting time
- Integrated System Solution Kits – all from one trusted manufacturer

The water based system, Schlüter®-BEKOTEC-THERM

Schlüter®-BEKOTEC-THERM is a low height, energy-efficient and quick-reacting modular underfloor heating assembly. This system can be used in new build and renovation projects, and it is a greener choice with economical, energy saving properties.

Its low supply temperature of approximately 30°C, compared to between 50-55°C in some systems, means Schlüter®-BEKOTEC-THERM is extremely effective both with conventional heat generation methods and regenerative energy sources, such as heat pumps or solar panels. Since the thinner screed requires much less material, the final construction is lighter and lower than traditional screed installations, saving considerable construction time.

As well as its performance and ease of use, what makes Schlüter®-BEKOTEC-THERM really stand out from the crowd is its five year covering and assembly warranty or an extended warranty if installed by a member of the Schlüter Approved Installer Network (SAIN), when installed with our screed system.

The Schlüter Approved Installer Network is new for 2016 and allows approved installers, who have completed full training with Schlüter, to install the system. The network not only gives accreditation to the individual as an expert but also to the company as a certified organisation. This provides reassurance to you as the specifier or



architect that the system will be installed to the manufacturer's standards and best practice and minimises installation risks, ensuring a quick and reliable installation.

The system also features a new range of thermostat and control modules, this new generation of room sensors and control modules significantly increases the flexibility and convenience of regulating the temperature of the room. As the core of the system, the base module, can be connected to a timer module for energy-saving temperature reduction. The connection modules for wired or wireless room sensors can be freely combined with the base module, which enables the flexible expansion of existing systems at any time. Modern wireless and wired room sensors allow for individual room temperature control to suit requirements. The Schlüter®-BEKOTEC-THERM system can also be integrated with Building Management Systems (BMS).

For more information on our range of underfloor heating systems please contact us.

Schlüter-Systems Ltd. has NBS Clauses and BIM Objects available on NBS Plus, National BIM Library and on the company website.

01530 813396 www.schluter.co.uk

Smart commercial fan heaters!



Consort Claudgen has introduced an improved range of commercial fan heaters to its extensive portfolio of products. Each heater is now equipped with intelligent fan control which detect the temperature in the environment and automatically adjust its fan speed to quickly achieve a warm

airflow temperature. This allows the heater to immediately blow hot air, even when initially powered on in a very cold room, for the user's comfort. They are available in 6kW to 15kW rating with a heat throw of up to 11 meters.

sales@consortepl.com

High outputs. Low running costs



The innovative aluminium and copper emitters in every Autron LST, contain less than a third of the water found in a typical flat panel emitter, producing the same wattage. As a result less energy is required to generate heat output. Plus, heat transfers to a room far quicker, and in a more controllable manner,

than with both flat panel radiators and underfloor heating systems. In addition, the safe-to-touch casings make them the ideal choice for use in schools and care home environments.

01952 290498 www.autron.co.uk

Helping make a positive contribution



The Combined College Boathouse on the banks of the River Cam is now contributing towards its environment – including its use of sustainable strategies. Gilberts Blackpool has been instrumental in helping meet the objectives, providing both the natural

ventilation components, and air movement elements for the supplementary mechanical ventilation. Gilberts provided a pair of continuous natural ventilation wall assemblies, purpose-designed for the project, by incorporating its WHZ50 high performance external louvres with class A weathering.

01253 766911 www.gilbertsblackpool.com

Introducing DCM-PRO



The DCM-PRO floor heating system from Warmup is the fastest solution for the installation of a heated decoupling system in all areas. The system comprises of a self-adhesive castellated membrane and a heating cable. Once installed, DCM-PRO can easily be covered with a range of floor

finishes. The self-adhesive layer of the DCM-PRO Mat acts as a self-healing decoupling layer, eliminating the need for additional fixings and laborious installation methods, significantly reducing both installation time and costs.

0345 345 2288 www.warmup.co.uk

Residential Ventilation Solutions from Vortice

Intermittent Fan Ranges
Axial fans such as the slimline Punto Filo, low energy Punto Evo Flexo and stylish centrifugal Vort Quadro fan ranges

Continuously Running Fan Ranges
Continuously running energy efficient fan, the Vort Leto MEV can ventilate a kitchen and up to 6 wet rooms

Heat Recovery Ranges
The two new heat recovery units, the Vort HR250 Neti and Vort HR350 Avel units offer a 100% bypass to maintain a good indoor air quality within the home at a low decibel rating.

Talk to Vortice
Air Experts
now!

01283 492949
sales@vortice.ltd.uk
www.vortice.ltd.uk

www.chillipenguin.co.uk

**Chilli Penguin
Stoves**

196 Deansgate, Manchester



AET Flexible Space is proud to have been part of the phased refurbishment of the historic building at 196 Deansgate in Manchester. Situated in the city centre on what is probably Manchester's best known streets with close proximity to Spinningfields. The AET Flexible Space

system utilises the plenum as the ventilation duct, yet differs to standard underfloor air distribution. As the system utilises the space beneath the raised access floor to distribute conditioned air, this eliminates the need for ceiling based duct work.

01342 310400 www.flexiblespace.com

Speedheat could surprise!



If you thought installing underfloor heating could be a problem, the electrical solution from Speedheat may surprise you! Speedheat understands that every installation is different, which is why specialist engineers design and install a bespoke solution for every customer. Whether used as the primary heating or for a single cold spot, the versatility of this new generation system is up to

almost any challenge. Independent tests have proved it safe under almost every final floor covering. At just 1.5mm thick, there is no major upheaval or build up of floor height and once in.

info@speedheat.co.uk

Architects Datafile website

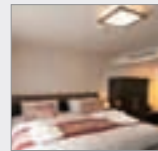


The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital

issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

www.architectsdatafile.co.uk

Helping deliver ultimate comfort



An innovative approach to guest requirements is helping a new venue blend excellence in modern hotel provision with a historic setting. The four-star Mannin Hotel in Douglas, Isle of Man has undergone a three-year, £6million re-build. Unlike any other hotel on the island, the Mannin features air conditioning, stylishly delivered in all guest bedrooms and the major public areas using British designed and engineered grilles from Gilberts (Blackpool) Ltd. Installed at high level, counterbalancing the underfloor heating, the Gilberts' units ensure an effective yet draught-free throw of air into the rooms.

01253 766911 www.gilbertsblackpool.com

Docherty® delivers!

Quality, innovation and design

- Flue and chimneys
- Wood burning stoves
- Fireplace inserts
- Pellet stoves and boilers
- Heat interface units



docherty®
SINCE 1960

Call: 0121 555 6789 - Email: sales@docherty.co.uk

www.docherty.co.uk

New standards in electric fires

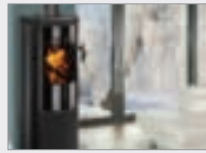


With today's highly efficient homes it's not always essential, or sometimes even possible to have a gas or wood burning fire fitted. However, if you want the warmth, plus the look and feel of such a fireplace, then an electric suite is perfect. The two new Infinity electric fires from Charlton & Jenrick are

available to fit frameless in the wall or into a fireplace suite. There are Infinite possibilities of how you can present these fires. The fires feature the new 3D Ecoflame™ technology, which offer a very exciting realistic flame effect with four mood settings.

sales@charltonandjenrick.co.uk

Docherty delivers the very best burners



A wood burning stove can be a great focal point in your home, creating a warm, cosy atmosphere. Regardless of whether the house is heated by district heating or its own heating system, a stove is a good supplement which is also a fully independent heat source. With Docherty's

wood burning stoves it's never been easier to bring the cosy feel of the fire into your home. Our comprehensive selection of wood burning stoves feature innovative, elegant design using the highest quality components.

sales@docherty.co.uk

New flue system ticks the boxes



Schiedel Chimney Systems has supplied its Ignis Protect flue system for the first time in the UK for installation, enabling the luxury timber-framed building to enjoy the warmth of a wood burning stove, safely and efficiently. Ignis Protect is a new CE approved system designed for single wall connecting flues pipes up to the

temperature class T450 and for double wall stainless steel chimneys up to temperature class T600. It can be used to pass through both interior and exterior walls, made from combustible materials, and is available in both 90 and 45 degree versions.

0191 416150 www.schiedel.co.uk

Though she be but little, she is fierce!



Master British Stove Maker ESSE knows that a Gold or Ruby stove isn't just for Christmas. Hot on the heels of the latest Bronze finish, ESSE has unveiled a host of new colours on the company's British-built stove collection. The new hues include Ruby, Gold, Ash White and, of course, Classic Black. The colours are available across the complete stove range and are pictured here on ESSE's 'entry level' stove;

the ESSE 1. It has an impressive output of 4.8kW as well as being DEFRA approved for burning wood in smoke control zones.

enquiries@esse.com

STOVE MAKER
ESSE

ESSE SOLO 2KW ELECTRIC STOVE

The ESSE Solo electric stove combines elegant design with thermostatic control and a 2kW heat output. With cast iron features, this stove is hand built to last and radiates both warmth and style. Like all British-built ESSEs, the Solo benefits from 162 years' stove-making experience. Can be enjoyed for its welcoming light, without heat, on warm evenings. Available in Bronze, Iron Grey, Polished and Black. From £603.

esse.com

CONSORT CLAUDGEN

CRX1 Wireless Controller
for Consort's RX Heaters

greater energy saving & total comfort!

Large backlit LCD display for easy reading
Touch control
Simple to set up and easy to programme
6 temperature settings per day
7-day heating programmes per week
4 different operating modes
15-minutes Boost feature
Supplied with security wall bracket and table top stand

Consort Equipment Products Ltd
t: +44 (0)1646 692172 • f: +44 (0)1646 695195
sales@consortepi.com • www.consortepi.com

Gaia hydronic UFH is the smart choice



Underfloor heating is increasingly popular in residential projects. Gaia's hydronic UFH systems are efficient, give a comfortable, even, heat and do away with the need for traditional wall-mounted radiators. Gaia offers two distinct hydronic systems: its own-branded system comprising of high quality controls and manifolds, and the proprietary Polypipe system which combines Polypipe's own pipework, controls and manifold. Both systems are highly efficient, and require a low-temperature water supply compared with traditional radiators which circulate water at 60°C.

info@gaia.co.uk

82 per cent Efficient Burning Wood



Are you looking for an efficient, 5kW multi fuel stove that will fit into a shallow recess and has a direct air option? The **Chilli Penguin Woody** may be the stove for you. It is 82 per cent efficient burning wood and 87 per cent efficient burning solid fuel. It measures a slim 285mm

in depth and can be fitted 50mm from non-combustible materials at the rear. It comes with a smoke control kit for smoke control zones and there is an optional rear exit adaptor and stainless steel top.

stoves@chillipenguin.co.uk

The Vision Trimline Collection

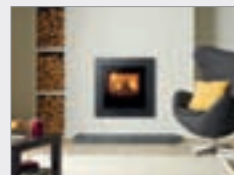


The Vision Trimline range from Percy Doughty is designed with the specific purpose of recreating the desire to use a fireplace as the central focal point of our living space. The innovative fires are skilfully engineered to allow a true trimless aspect. With no distracting frames or visible mechanical

workings – just fire. Furthermore, meticulous attention has been paid to the realism of the fuel bed and flame patterns to ensure a perfect recreation of a natural, living fire.

sales@percydoughty.com

The stylish and eco-friendly range



With winter just around the corner, what's more appealing than a log burning fire to heat your home? Stovax's **Elise Glass** is the newest addition to the Elise built-in fire range. These fires come in both woodburning and solid fuel and have a beautifully designed glass door frame to enhance

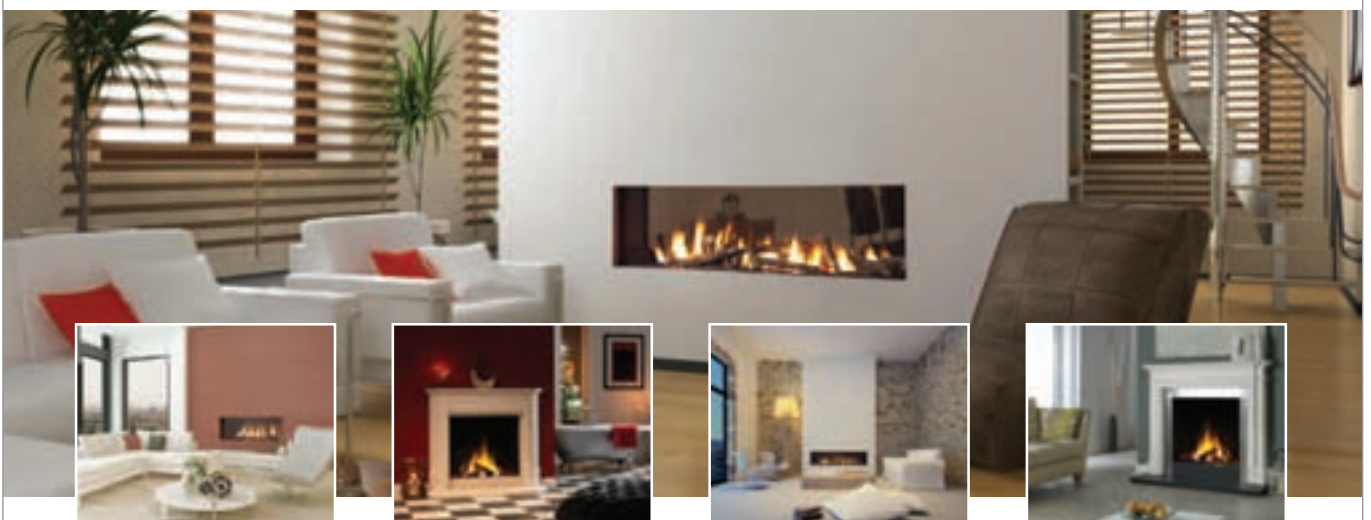
the flame visuals. They are Ecodesign compliant and are engineered to keep their environmental impact to a minimum. They are the perfect warm welcome home on a cold winter's eve.

info@stovax.com

vision
trimline

TRUE TRIMLESS GAS FIRES

DESIGNED AND ENGINEERED IN THE NETHERLANDS



☎ 01204 868 550

✉ info@visionfires.co.uk

🌐 www.visionfires.co.uk

Maxwood makes a splash



Maxwood has once again demonstrated its design and manufacturing expertise with executive washrooms for a landmark development in London. Maxwood's package for Three Pancras Square, the latest building in Argent's King's Cross

masterplan, provides male, female and accessible washrooms, together with changing facilities in the basement. Styled around Maxwood's high quality product range, from elegant flush-fronted Marante toilet cubicles to Xeista Corian vanity units incorporating hand-basins with a luxurious bronze-effect finish and matt black taps.

info@maxwoodwashrooms.com

Washroom Washroom embraces BIM

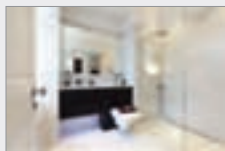


Washroom Washroom has recently made the majority of its products available as Building Information Modelling (BIM) objects via the National BIM Library. Architects, specifiers and designers alike will now be able to effortlessly integrate cubicles, vanities, lockers and benching from Washroom's range directly into their own BIM models to create a comprehensive virtual 3D building model.

Twelve of its most popular toilet, shower and changing cubicles are now available to download as component BIM objects ready to be positioned within an existing 3D building model just as required.

sales@washroom.co.uk

FAST TRACK bespoke grill service



CCL Wetrooms have launched their new FAST TRACK Bespoke Grill Service, enabling customers to order any length of wetroom grill up to 2000mm, using their new 2-3 day manufacturing service. The service applies to all stainless steel grills in a Solid or Stone-Infill finish. The

NEW Fast Track Bespoke Grill service complements CCL Wetrooms' standard range of grills which has grown from nine to fifteen standard lengths and offers customers an increased choice of finishing touches for their wetroom.

0844 327 6002 www.ccl-wetrooms.co.uk

Save energy costs and stay healthy



Breathing in stale, contaminated air can lead to health issues like asthma, headaches, fatigue, nausea and flu. As newer houses are designed to be airtight, it's harder to get a fresh air path through the building. There's a simple solution, good ventilation – Vortice mechanical ventilation systems including heat recovery units are highly energy efficient, with a system for a typical domestic property using no more energy than a 60w light bulb. Recovering heat from moist stale air and tempering the incoming air enables heating to be turned down, saving energy costs and ensuring that home owners are breathing in fresh healthy air.

sales@vortice.ltd.uk

The comfortable solution for warmth where you want it, when you want it... guaranteed

- ◆ efficient
- ◆ controllable
- ◆ professionally installed
- ◆ nationwide suppliers
- ◆ ideal for conversions & retrofits

electrical underfloor heating by

SPEEDHEAT

comfort from the ground up

Speedheat UK
Iona House, Stratford Road,
Wicken, Milton Keynes, MK19 6DF
tel: 01908 562211 email: info@speedheat.co.uk
www.speedheat.co.uk

www.apolloradiators.co.uk



monza aluminium column radiator

Ideal for low temperature renewable systems
Ideal for high pressure systems
The latest patented european technology
A unique aluminium radiator design
Half the weight of steel
82 vertical and horizontal sizes
Delivered within 3 working days

The convenience of co-ordination

Architects are increasingly looking to tie washroom design into the overall look of a building's interior – and high-spec products are becoming more commonplace. Trevor Bowers of Washroom Washroom explores the diverse range of solutions on offer

By continually pushing the boundaries of design, creating new products and utilising the latest materials, manufacturers have developed an extensive range of options for the washroom – giving architects the tools to create unique designed washroom spaces to complement the rest of the building. But it's clever new high tech materials that have really been the game-changers – delivering finishes that are as practical as they are aesthetically pleasing.

Glass, marble and stainless steel have long been used in washroom designs but new materials, offering exceptional versatility and aesthetic properties, including solid surface Corian, toughened glass, and 'smart' surface material Fenix NTM look set to dominate the washrooms of the future.

The latter is one of the stand-out developments in recent years in the sector, a highly durable acrylic resin surface material manufactured by Italian manufacturer Arpa Industriale using the latest nanotechnology and ideal for use in a number of applications including washrooms.

Not only is it anti-fingerprint, hydro repellent and resistant to scratches and abrasion, it is also thermally self-healing and light fast, so it won't fade over time. The fact that it is also easy to clean, mould resistant and boasts enhanced anti-bacterial properties is an additional benefit for both clients and facilities managers.

With its matt appearance, soft touch and with low light reflectivity, it is becoming

With its matt appearance, soft touch and with low light reflectivity, Fenix NTM nanotechnology material is increasingly popular

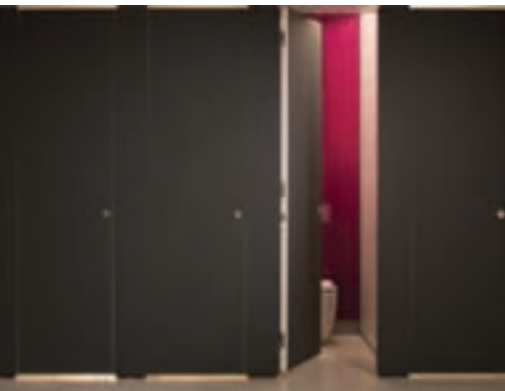


increasingly popular with architects and interior designers when a luxury high performance finish is required.

Spoiled for choice

The advances made in the manufacture of glass have also impacted on washroom design, as it can now be effectively used throughout a washroom, including cubicles, duct panels and even lockers. Specially toughened glass provides a high specification, smooth finish without the need to compromise on performance. As a result, glass cubicles are now frequently specified for use in offices and commercial buildings.

It's not just the increased durability of glass that has secured its place as a key feature in modern washroom design, but also its design versatility. With the option to



back paint glass, it can fit in with virtually any washroom design or colour scheme. There are also ways to incorporate digitally screen-printed designs behind the glass, adding a further bespoke element to the overall design, while textured glass and acid etching opens up more possibilities for a greater array of finishes.

Veneers, which can be applied to cubicle doors as well as to duct panelling and splashbacks, are another excellent way for architects to link the washroom with other aspects of a building's design. Both real wood veneers and engineered veneers, which can be specifically designed to ensure a consistency of colour, can be carefully chosen to exactly match woodgrains and types used in the lobbies and common areas of the building to create a subtle link and cohesive design.

Page Lacquer coating is another option, which can be used to create a highly polished, ultra-glossy finish but also allows wear and tear to be easily repaired and re-polished in situ for a high specification finish that is guaranteed to stand the test of time.

When it comes to vanities, solid surface

materials such as Corian, which lends itself to being cut, bent and joined to produce a desirable seamless smooth finish, offer the perfect balance between style and practicality. Available in a wide range of attractive colours and textures, Corian can be used to create a bespoke washroom space that is as hardwearing as it is aesthetically pleasing.

Eye for detail

Innovation is also reshaping the washroom accessories market meaning that bespoke touches, like crafted oak door handles and architectural ironmongery, can be carried throughout the design.

Never before have washroom designers had such a wealth of practical solutions at their disposal. There's huge scope to utilise new materials, products and finishes to stunning effect – creating washrooms that not only look exceptional, but which also save building managers considerable time, energy and money.

Trevor Bowers is a director at washroom designer and manufacturer Washroom Washroom

HORNE
QUALITY INNOVATION DESIGN

Duso®

Shower Column

For sports and recreational facilities



Designed for group showering installations in school and team sports facilities, the **Duso** is practical, appealing and functional.

Please visit <http://goo.gl/9mYCO4> to see it in action.



HORNE ENGINEERING LTD PO Box 7, Rankine Street, Johnstone, PA5 8BD.
 Tel: +44 (0)1505 321455 Web: www.horne.co.uk

The **Magrini** family is now complete...

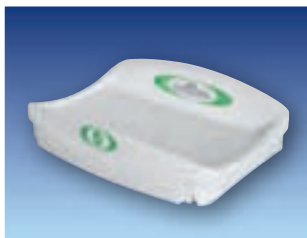
- ✓ New, contoured contemporary design
- ✓ Unique hinge construction eliminates finger traps
- ✓ Choice of colour to suit any project
- ✓ Extra deep sides increase safety and eliminate the need for straps
- ✓ Withstands static loads in excess of 100Kgs
- ✓ Hygienic, easy-clean surface



MH42 Horizontal Baby Changing Unit



MV64 Vertical Baby Changing Unit



MT80 Countertop Baby Changing Unit



MC75 Stainless Steel Baby Changing Unit

Fully Compliant with
BS EN 12221: 2008 ✓

MH42 Horizontal
Baby Changing Unit



...with the arrival of the **MT80** Countertop Baby Changing Unit

- ✓ Durable, solid moulding
- ✓ No surface fixing screws
- ✓ Hygienic finish with easy maintenance
- ✓ Extra deep barriers eliminate any need for straps reducing maintenance and inspection costs
- ✓ Easy-fit system for fast installation



MT80 Countertop
Baby Changing Unit



Architects Datafile website



The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

www.architectsdatafile.co.uk

Meisterstück Emerso by Arik Levy



The free-standing, fully enamelled Meisterstück Emerso bathtub has a high back rest and slightly rising edge which is like looking at a silk ribbon rolled in on itself. The bathtub is entirely made of Kaldewei's superior steel enamel with

seamless coating, flush-fitting waste cover and discreet overflow outlet. The Meisterstück Emerso washstand is also available and fully complements the bathtub to create the perfect statement design in any bathroom. Kaldewei will exhibit at Sleep 22nd-23rd November 2016, stand V10. For stockist information contact Kaldewei.

01480 498053 www.kaldewei.co.uk

Isarca: the new ultra modern ceramics collection by Sottini



Sottini, the timeless bathroom brand built on a heritage of quality and innovation in design from Ideal Bathrooms, has unveiled the latest innovative new addition to its range, the Isarca collection. Isarca brings innovation, luxury and high-end design to a conventional product range at an accessible price. With its strong modern look, Isarca sits perfectly within the brand's precision lines design typology, characterised by sharp edges and crisp aesthetics. Isarca, presents a well-designed range of essential ceramic sanitaryware, with design elements that are both on-trend and future-proof by design. The suite features ultra-modern, sharp design, which is characterized by slim ceramic walls, sharp angled corners and tapered edges, all aspects that are right on trend and future-proofed for years to come. There are many basin and toilet combinations to choose from, with the angular design fitting perfectly with many brassware and bathing options within the portfolio. All washbasins can be flexibly installed as either full or semi pedestals or can be wall hung with a contemporary chrome bottle trap.

Sottinisales@sottini.co.uk

NEW FROM DURAL

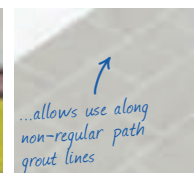
Bespoke, colour matched micro joints



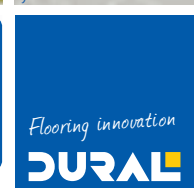
DURAL MICRO JOINT INFILL

- Provides discreet stress protection required in heated floor installation
- Colour matched for maximum discretion
- Micro Joints that can be colour matched to the grout colour, the tile colour or the RAL Chart
- Cost effective

Call **01924 360110** visit www.colouredmovementjoints.co.uk



Request an in-house CPD presentation:
Modern Movement
- controlling movement in hard floor finishes



Silence installed.

Noise reduction in sanitary installations.

**Book your approved
Acoustic CPD
with Geberit today.**
→ www.geberit.co.uk/cpd



Geberit's reliable and innovative sanitary and piping systems provide the ultimate solution for better acoustics. We cover the complete solution, from supply through to sanitary and drainage, to ensure that everyone gets a good night's sleep whenever water passes through the building. For acoustically optimised sanitary installations, find out more from the experts. → www.geberit.co.uk/silence

Accessible Guidance



With the growing need to make homes adaptable so occupiers can remain independent, and in their own homes, new guidance is aiming to help get it right. 'Design Guidance & Considerations for a Domestic Accessible Toilet/Wetroom' has been produced and published by Clos-o-

Mat. The white paper gives advice to ensure that all aspects affecting the functionality and practicality of a bathroom, wetroom and toilet, as occupier needs change, are considered. The white paper can be downloaded free of charge from the website.

0161 969 1199 www.clos-o-mat.com

Harmonious shapes from Darling New



Darling New is a Duravit design classic. Developed in collaboration with sieger design, Darling New features harmonious shapes highlighted by delicate edges. For 2016, new products have been added to this already extensive

bathroom series in order to meet the most sophisticated design and comfort requirements. Four Darling New furniture washbasins ranging from 520 to 1020mm in width can now be combined with vanity units from the L-Cube bathroom furniture series. Launched in 2015, L-Cube is already a bestseller for Duravit and is now available for the Darling New series in more than 30 different finishes.

0845 500 7787 www.duravit.co.uk

Saracen add to its work for Yum!



Saracen Interiors has completed works for Yum Restaurants International at the fast food company's UK headquarters. The leading workplace consultant has worked with Yum! for over 13 years, developing its relationship with Yum! to provide a one stop

shop of small works at various premises in the company's property portfolio. Recent works at Yum!'s Surrey offices included HVAC alterations and modifications; the installation of five suspended acoustic ceiling rafts, feature pendant lights and LED spot lights; power and data works; carpet repair works and decoration of all meeting rooms.

enquiries@saraceninteriors.com

Treloar College caring ethos



Creating the flexibility and adaptability in bathroom furniture to support independence and aid self-esteem for those with physical disabilities, is central to Pressalit Care's design ethos. And has led specialist college Treloar's to choose a range

of Pressalit Care fittings for its new Gauvain House in Alton, Hampshire. The spacious bathrooms are each fitted with Pressalit Care's horizontal track Plus system which allow elements within the room to be moved and adjusted, catering for wheelchair manoeuvrability and to give space for carers to work safely.

0844 8806950 www.pressalit.com

Altro sets clinical standard



Altro's flooring and wall cladding systems are proving their clinical capabilities in a new state-of-the-art primary healthcare facility in Maidstone, Kent. Designed by GDM Architects, whose priorities were clear, Senior Architect Ben Jugoo said, "We chose Altro's range of products because of

their suitability for clinical environments in terms of safety and hygiene. They also offer a great range of colours, tones and textures, which gives us the flexibility to create an appealing environment, while keeping within strict health guidelines."

01462 480480 www.altro.co.uk

Stunning new table collections unveiled



An inspiring new 'Tables Edit' sets the scene for Lyndon Design's stunning collections of handcrafted wooden tables. Designed to enhance any corporate or hospitality space, these exquisite collections provide designers with unending possibilities and the opportunity to bring

elegance and charm to interior design schemes. A natural extension to Lyndon Design's legendary ranges of upholstered seating, the table collections also enable designers to satisfy multiple specifications from just one range.

sales@lyndon.co.uk

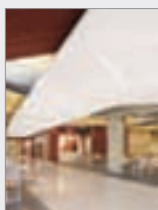
British Ceramic Tile steps out at London Fashion Week



The world of fashion and interiors have once again united with British Ceramic Tile stepping out in style at London Fashion Week (LFW). The UK's leading ceramic and glass tile manufacturer will be supporting LFW, tiling the New Gen area at the show, a space dedicated to celebrating the young designers of the future. The company, who designs and manufactures its fashion forward tile collections here in Britain, has supplied 60sqm of Colour Compendium Mono White Gloss Wall tiles, and a selection of flat gloss white wall tiles. This is the second year the tile manufacturer has collaborated with LFW and is one of a series of initiatives created to communicate the company's design credentials. Recent examples include the Ted Baker event at the London Hub, as well as the launch of the stunning new Laura Ashley collection. Fashion has long influenced interior design with the latest trends and directions from the catwalk eventually translating through into our homes. But now the two industries have collided and are mirroring each other with the latest fashion influences effortlessly filtering through into soft furnishings and décor almost instantly.

0845 6187 148 www.britishceramictile.com

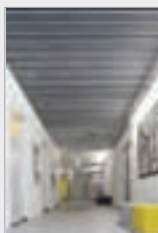
TechZone™ is now simpler to use



Armstrong Ceilings has further simplified its ground-breaking TechZone™ system, which was the industry's first easy-to-specify-and-install ceiling solution with integrated technical services, to be offered as a standard solution. TechZone™, which was pioneering when it was launched in 2009, is now available as four standard layouts which easily organise lighting, air diffusers and returns into 100mm and 150mm wide technical zones. The improved TechZone™ system has enabled Armstrong to meet the growing trend for linear lighting.

01895 251122 www.armstrongceilings.co.uk

New modular felt ceiling system



Hunter Douglas Architectural has introduced the first modular felt ceiling system in the world. Inspired by a generation of designs HeartFelt is a new creative and attractive linear ceiling system that generates a warm ambience, offers exceptional acoustic control and is sustainable by design. The HeartFelt ceiling system offers an advanced budget friendly ceiling system with optimal acoustic control in a material that is 100 per cent recyclable. Each panel is box shaped and

is easily clicked on to the specially designed carrier system.

01604 766251 www.hunterdouglas.co.uk

adf

architectsdatafile.co.uk



incorporating **Building Projects** magazine



@architectsDF

REGISTER ONLINE FOR...

In-print magazine • Digital magazine
Newsletter • Daily digests

www.architectsdatafile.co.uk

SIMONSWERK
HINGE TECHNOLOGY

TECTUS®

THE COMPLETELY
CONCEALED
HINGE SYSTEM



TECTUS®

- | high load values up to 300 kg
- | maintenance-free slide bearing technology
- | three-dimensional adjustability
- | opening angle 180°
- | wide variety of finishes



t: +44 121 522 2848
e: sales@simonswerk.co.uk
www.simonswerk.co.uk

Mapei products specified for tiling renovation at Freemasons' Hall

Mapei adhesive and grout products have been specified for the installation of a stone pattern in the reception and washroom areas in a refurbishment to the Freemasons' Hall, London. The Hall first opened in 1933 as a memorial to the 3,255 Freemasons who died during active service in the First World War, and has been used for events, the meeting place for the Grand Lodge, and annual meetings of the home counties since.

Avantgarde Tiling was awarded the contract to design, supply and install a new stone pattern to the reception floor area and to install large format porcelain tiles and feature walls (including stone vanity and credenza tops) to the washroom area. Mapei products were specified to complete the tiling projects, and included the popular Limestone Ultracolor Plus grout (shade reference 299) which was applied to 70m² of tiling within the reception area of the building. White Kerapoxy grout was applied to 94m² of washroom tiles, ensuring that a stain resistant approach was installed in areas subject to heavy traffic.

The Grade II* listed building is reputed to be one of the finest Art Deco buildings in England and as such due to its popularity was in constant use throughout the renovation work. The reception area was completed over two weekends of work, first requiring a quick setting deep base self-leveling screed for the installation of substrate. Mapei's Ultraplan Renovation Screed 3240 was specified for its quick setting properties, allowing Avantgarde Tiling Ltd. to install a temporary carpet over the substrate so that the venue could be used without any constraints. The following weekend, the installation of the new stone floor was carried out entirely using Mapei's Ecoprim T, Adesilex P10 for mosaics, Elastorapid Grey for fast track floors and Keraflex Grey Maxi for the large format walls. These Mapei products were used due to their suitability for the listed interior of the building.

Ceramics CPD events

Training and education around products and the methods used in projects such as at Freemasons' Hall plays a major role within the Mapei organization. Regular RIBA accredited CPDs, training events and seminars are hosted by Mapei throughout the year. The presentation "Avoiding Ceramic Tiling Failures" will take place at Mapei's Specification Centre in the heart of Clerkenwell on the 17th November at 12pm. Design and construction professionals are invited to attend to gain knowledge and receive up to date information to ensure the correct specification for all types of projects as well as being provided with an opportunity to network with like-minded professionals.



For more information regarding how these products can be used in your project please contact Mapei directly.

The RIBA CPD will be supplemented with technical literature and handouts, and will include how to specify the correct materials for your project in line with tiling standards. The seminar will help you to make sense of common tiling terminology and cover the complete system of requirements, from background preparation through to using the correct adhesive and finishing grout choices for your project.

Covering successful UK and Ireland case studies, Mapei's Specification team welcome queries from attendees, with ceramics specialists available for questioning after the 40 minute seminar regarding your project and specifications you are looking to undertake.

Large format tiling is a sector within the design and construction industry which has seen unprecedented growth in recent times. Alongside learning how to avoid ceramic tiling failures, Mapei are presenting their own seminar regarding **Large Format Tiling** on the 21st December (12pm). This short presentation will address the problems associated with fixing these materials along with the correct Mapei products and methods to specify, to ensure a long term quality finish to a project.

Refreshments and buffet lunches are provided. To book your place email CPD@mapei.co.uk or tweet @MapeiUKLtd.

0121 508 6970 www.mapei.co.uk

Flowcrete's new Comfort Resins range

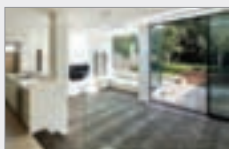


Flowcrete UK has launched a new comfort flooring range to provide the developers and designers of commercial and public facilities with finishes that will deliver the necessary practical, aesthetic and budgetary criteria. The Comfort Resins collection includes the systems Peran Comfort and

Peran CHD as well as Flowshield Comfort and Flowshield CHD. These self-smoothing and flexible polyurethane coatings are all able to create a durable, seamless and easy to clean surface that will withstand intensive foot traffic, rigorous cleaning.

01270 753000 www.flowcrete.co.uk

No ordinary detached suburban house



Robert Hirschfeld Architects used the force of design to turn a tired family home in North London from the darkside into a light spacious retreat from the City. Using Reeve Wood's Oak Prime 100mm x 500mm Chevron Charcoal for the ground floor and

190mm wide Classic Charcoal for the upper floors they created a synergy of colour that was linked by matching stair treads to create an amazing effect. To order a sample of Oak Classic, Charcoal or to find out more about Reeve Wood's stair treads please visit the website.

01553 776835 www.reevewood.com

Safetytread - pioneers of anti-slip stairnosings

Safetytread products are a range of bespoke, premium, high quality anti-slip stair nosings manufactured in the UK.

Safetytread is environmentally friendly and provides a more economical solution than cheaper plastic materials. The treads will add excellent slip resistance to any staircase (internal or external); can be tailor-made to fit the exact dimensions of a stair tread and are available in a wide range of colours.

We will meet your stair nosing requirements with a tailor-made, bespoke solution, filled in your desired colour.

For more information please visit www.safety-tread.co.uk or call us on 01202 625596.



SAFETYTREAD
ANTI-SLIP STAIRNOSINGS



NEW

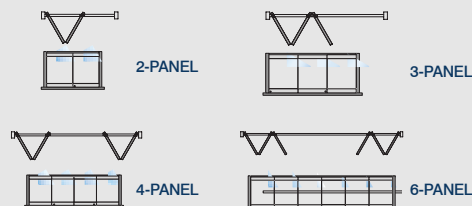
CRL CUSTOM BI-FOLD SLIDING DOORS

An excellent way to divide interior spaces while maintaining a feeling of openness

- Overhead track full panel bi-fold door system
- Featuring 100mm square door rails
- Panels hung from end point, minimising obstruction
- Custom built to your specifications for fit and finish
- Systems available for 10 or 12mm glass
- Maximum individual panel: 990mm/77kg



MANUFACTURED TO ORDER IN THE UK



For information call FREE on 00 800 0421 6144

e: CRL@crlaurence.co.uk
f: 00 800 0262 3299
w: crlaurence.co.uk

CRL®

DOOR HARDWARE

Laidlaw goes above and beyond



It's not unusual for Laidlaw, to go above and beyond for its customers. Laidlaw's reputation for quality means it can meet even the most challenging of designs and specifications in any project – including non-standard materials. At a new apartment

block on the corner of Shottery Rd and Evesham Lane, in Stratford-upon-Avon, Laidlaw was asked to provide a balustrade that combined contemporary brushed stainless steel with warm walnut timber, the latter being a non-standard material that was specified by Ritchie and Ritchie Architecture and Design.

01902 600400 www.laidlaw.co.uk

Securikey's safe range steals the show



Securikey recently showcased its wide range of security products at the 2016 Lockex Exhibition. Securikey has been a trusted partner to many UK companies since 1973. As well as offering advice on a number of its physical security products, Securikey launched

updates and extensions to its Euro Vault range of safes at Lockex 2016. Now extended to five models, with the existing models updated to include new features including a new locking system and interior light, the Euro Vault range now presents a comprehensive suite of products aimed at the lower retail price.

01252 311888 www.securikey.co.uk

Epsilon – the latest innovative LED Luminaire from Luceco

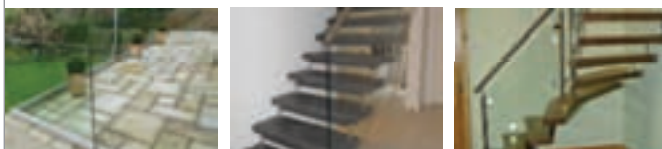


Luceco has further expanded their LED lighting range with the launch of the Epsilon, a direct/indirect recessed luminaire designed for a multitude of commercial applications. The Epsilon is the latest innovation from the Luceco product development team, designed to optimise lighting performance and maximise luminaire spacing. Epsilon enjoys a unique and architecturally pleasing design with an elegant aesthetic profile, offering variation from Luceco's flat panel luminaire range. Epsilon is designed in the spirit of The Society of Light & Lighting's LG 7 requirements and has a market leading efficacy of 120 luminaire lumens per watt. Meeting the same energy saving credentials as other Luceco LED luminaires, the Epsilon offers up to 50,000 hours working life with no maintenance or re-lamping requirement, benefiting the environment in terms of energy efficiency and lamp disposal. Epsilon is available in fixed output, Dali dimmable, emergency options and integral lighting controls. With increasing pressure for buildings to be environmentally friendly and energy efficient, the choice of lighting products has to be carefully considered.

01952 238100 www.luceco.uk



Specialist suppliers of
unique German staircases,
frameless and stainless glass
balustrades



Tel: 01425 611112 Fax: 01425 617773 sales@fivestars.ltd.uk
www.fivestars.ltd.uk

False alarms from e-cigarette vaping



Nittan's Evolution EV-DP Dual Wavelength Photoelectric smoke detectors have been installed in a Southampton pub and live music venue to prevent false alarms caused by vaping. Unlike other industry standard (single optical sensor) smoke detectors on the market that claim to distinguish

between smoke and non-combustion products, the EV-DP effectively measures the actual particle size in the chamber via its combined IR and blue LED technology. As steam and dust are much larger particles than smoke, the detector won't false alarm.

sales@nittan.co.uk

Avoid fines for fire safety breaches



Fire safety breaches can result in hefty fines and jail sentences. According to Atomik Research, 45 per cent of people responsible for fire safety in their organisations say they would not know how to spot a suspect fire door. Door closers play a critical part in fire and smoke protection. ASSA

ABLOY UK's DC700G-FM Free-Motion® door closer is the first door closer for door widths up to 1400mm that combines a free-swing function with Cam-Motion® technology, allowing users to operate fire doors with the same low forces as non-fire doors.

sales@assaabloy.co.uk

Securikey's extended Euro Vault range



Physical security supplier, Securikey, is dedicated to supplying products that meet the very highest criteria and is proud to announce that its range of Euro Vault safes now offers even more value and quality with updated features and two new models. Suitable for floor or wall

fixing and now extended to five models, the Euro Vault range of safes are manufactured from solid steel with a 4mm thick door and 25mm hardened steel locking bolts, offering an overnight cash cover of £1500 (£15,000 in valuables).

enquiries@securikey.co.uk

Architects Datafile website



The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

www.architectsdatafile.co.uk

Canopies that are fit for purpose



As a manufacturer and supplier of bespoke canopies, Canopies UK is championing canopies that are engineered for purpose. With canopy suppliers aplenty offering fast installation on seemingly cost-effective 'off the shelf' product solutions, specifying

a walkway, entrance cover, or semi-permanent building extension can be quick and easy. Canopies that are engineered for purpose often have longer and more comprehensive guarantees, like the 10-year warranty offered from Canopies UK. Specifying bespoke built shelters needn't cause unnecessary work.

info@canopiesuk.co.uk

Levato Mono at Bristol Airport



Levato Mono porcelain paver system from The Deck Tile Co has been installed on the new roof terrace at Bristol Airport East Terminal extension. Circa 400m² of the system was specified in order to conquer a number of challenges; covering EPDM membrane laid with

multiple falls; to hide services and drainage gulleys but still have accessibility for future maintenance; cutting around the numerous stainless steel posts and glazed partition with accuracy for the shroud detail. The finish specified was Teknotimber Dark oak – offering the client an attractive, flexible and well designed raised flooring solution.

info@thedecktileco.co.uk

BS 7533 Compliant Mortar Paving System



Call 01827 871871 or
email ultrascape@instarmac.co.uk
ultrascape.co.uk



FASERFIX® SUPER channel runs drain quayside at Royal Portbury Dock, Port of Bristol

The Port of Bristol is a major deep water port with the harbour and its operations designed to routinely accept large cargo Capesize vessels of up to 130,000 DWT (Dead Weight Tonnage). With over £330m invested by First Corporate Shipping Limited in the dock estate in recent years the Port is now recognised as being one of the most productive and technically advanced in Europe.

578 metres of Hauraton FASERFIX® SUPER 150, channels have been installed along the redeveloped quayside and container handling area at the Royal Portbury Dock, Port of Bristol.

Cat Jones, Hauraton's South West Area Projects Manager outlines the features and benefits of FASERFIX® SUPER channels that made them ideal for the Royal Portbury Dock project; "Hauraton have for the last 50 years been at the forefront of manufacturing robust Fibre Reinforced Concrete (FRC) surface



water drainage systems that are today distributed and installed around the world in some of the harshest environments. The FRC perfected by the company in the mid 70's allows our FASERFIX® channels and trash boxes to have much thinner walls yet are very much stronger when compared with similar non-reinforced concrete products. A standard feature of FASERFIX® SUPER channels are galvanised steel pressings securely moulded on to the top edges of the channel during



production, this detail allied with the Class F900 ductile iron gratings supplied for the Portbury Dock project, provides exceptional wear resistance and increased load bearing capability. Unlike some other well known makes, our FASERFIX® components are so strong, even prior to installation they are able to endure the rigours of site work and then the twisting wheels of container handling vehicles' once installed".

01582 501 380 www.hauraton.co.uk

**WANT SLIP-FREE
DECKING?**



Adjustable Pedestals from Wallbarn Ltd

Prevent standing water on decking areas around pools and spas by elevating the boards

Surface water drains between the boards and beneath the decking into suitable drainage outlets. Achieve completely flat decking surfaces on uneven ground and concrete floors built-to-falls

- Fast, hassle free installation of timber decking systems
- Hardwearing, rot-free plastic pedestals
- Telescopic stems help alter height whilst joists are in place for accurate levels
- Extremely high weight tolerances
- Weight is distributed evenly, avoiding movement and instability
- Large cavities beneath decking allow water to escape and aerate the timber
- No need to mechanically fix to the sub-deck
- Timber is lifted off the ground, extending its life

Ask us for more details:

0208 916 2222 - www.wallbarn.com - sales@wallbarn.com

OWATROL
CONCRETE UK

The Professional's Choice

Multi-Purpose Stripper

DSP 800 is a powerful and fast-acting stripper suitable for removing both single and 2-pack paints.



01923 219122

www.owatroldirect.co.uk

CLASSIFIED & DIRECTORY

ADHESIVES

BAL
Tel: 01782 591100
www.bal-adhesives.co.uk

ADVICE & INFORMATION

NHBC
(National Housebuilding Council)
Tel: 0800 035 6422
www.nhbc.co.uk

BALCONIES

Balco Balcony Systems
Tel: 0203 687 1020
www.balcouk.com

BATHROOMS & WASHROOMS



Clos-o-Mat
Tel: 0161 969 1199
www.clos-o-mat.com

Delabie UK Ltd
Tel: 01491 824449
www.delabie.co.uk

CAD & PRINTERS

Standing Stone
Tel: 01661 886653
www.standing-stone.co.uk

CURTAIN WALLING

Comar Architectural Aluminium Systems
Tel: 0208 685 9685
www.comar-alu.co.uk

DRAINAGE & VENTILATION

Sita Bauelemente
Tel: +49 2522 8340 0
www.sita-bauelemente.de

ENVIRONMENTAL REPORTS

GeoSmart Information
Tel: 01743 276 150
www.geosmartinfo.co.uk

FIRES & FIREPLACES

Charlton & Jenrick Ltd
Tel: 0845 519 5991
www.charltonandjenrick.co.uk

HEATING & VENTILATION



INSULATION

A Proctor Group
Tel: 01250 872261
www.proctorgroup.com

Boulder Developments Ltd
Tel: 01636 636348
www.boulderdevelopments.com

Kingspan Insulation Ltd
Tel: 01544 387 384
www.kingspaninsulation.co.uk

INSULATION

Recticel Insulation Products
Tel: 01782 590470
www.recticelinsulation.co.uk

Sto Ltd
Tel: 0141 892 8000
www.sto.co.uk

www.architectsdatafile.co.uk
01435 863500

INSULATED PANELS

Greentherm Solutions Ltd
Tel: 01229 716039
www.uksprayfoam.co.uk

KITCHENS

Aga Twyford
(Trading as Twyford Cookers)
Tel: 01568 611124
www.twyford-cookers.com

OAK PRODUCTS



PUMPING STATIONS

J T Pumps
Tel: 0844 414 5800
www.jtpumps.co.uk

RAINWATER SYSTEMS

Rainclear Systems Ltd
Tel: 0800 644 44 26
www.rainclear.co.uk

Yeoman Rainguard
Tel: 0113 279 5854
www.rainguard.co.uk

ROOFING

Liquid Roofing and Waterproofing Association (LRWA)
Tel: 0207 448 3859
www.lrwa.org.uk

Traditional Clay Roof Tiles
Tel: 08008 886 633
www.traditionalclayrooftiles.co.uk

SOLAR SHADING (BRISE SOLEIL)

Levolux Limited
Tel: 020 8863 9111
www.levolux.com

RENSON®
Tel: 01622 754 123
www.rensouk.net

STAIRS & BALUSTRADES

Railing London Ltd
Tel: 0208 566 6750
www.railinglondon.com

Q-railing UK
Tel: 01782 711 676
www.q-railing.com

If you're interested in advertising
please contact the sales team on
01435 863500

STREET FURNITURE

Contentur UK Ltd
Tel: 01282 604400
www.contentur.com

WINDOW CONTROLS



adf
architectsdatafile.co.uk

WEBSITE

The ADF website is an online provider of past and present products and news items for the architect or specifier. www.architectsdatafile.co.uk is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require for their project as well as news relevant to architectural developments.

NEWSLETTER

The fortnightly ADF email newsletter is designed to provide you with the latest products and services, direct to your inbox. You can quickly gather a snapshot of information from up to 12 carefully selected companies and easily follow links through to further information on the website or go directly to the company's website. Go to the ADF website to subscribe.

DIGITAL ISSUE

The ADF digital issue provides all the same content as the print issue with the added advantage of being instantly available whenever and wherever you have access to the internet. In addition to its ease of access, the ADF digital issue gives direct links to advertisers, allowing you to visit a potential supplier's website with the click of a mouse. Subscribe on the ADF website.

A picture of a lady bare foot on a warm floor is nice,
but our advice at this stage would be better.



Schlüter®-UNDERFLOOR HEATING

Anyone can try to sell you underfloor heating, however our expert solutions are one of a kind.
From advice to product, you can trust in Schlüter.

For product and technical support please call **01530 813396** or visit www.schluter.co.uk/architect.aspx

Schlüter-Systems Ltd
Units 3-5 Bardon 22 Industrial Estate
Beveridge Lane, Coalville
Leicestershire LE67 1TE



PROFILE OF INNOVATION

Tel: +44 (0) 1530 813396
Fax: +44 (0) 1530 813376
sales@schluter.co.uk
www.schluter.co.uk