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June 2016



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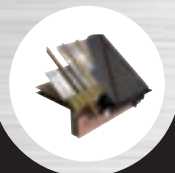


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From the Editor



I am proud to present the first issue of Architects' Datafile which I have helmed as editor.

Over the past few years ADF has been coming up through the ranks as a respected title, and now offers a broad range of project coverage, news and comment for its readership of 15,000 architects. In a tough commercial market the magazine has doubled its revenue in five years which is really impressive, and shows how the industry is recognising what ADF has achieved so far.

We are not going to rest on our laurels; the team is committed to taking the title to the next level, increasing the focus on creating engaging and relevant content and covering a wider range of practices and projects. It's an exciting time to be leading the magazine through this development phase, and I look forward to working with architects in the near future to explore how we can work together and champion the industry.

As well as previously editing long-established construction monthly Building Products, my first magazine editor role was back in the mid-1990s running a specialised journal much-missed by many architects in the healthcare sphere. Hospital Development was the UK's only publication dedicated to the honourable (and highly challenging) discipline of creating buildings for caring, and working with architects in the field gave me a lasting admiration for their skills, not to mention their resilience.

I will be looking to cover the widest gamut of architecture in ADF, and the freedom to do that is one of the magazine's strongest suits. Other titles may spend a lot of time in the scrum trying to grab the latest attention-seeking 'It' project, but there are a great many

other high quality buildings out there which could get overlooked in the process.

ADF provides an important platform to celebrate not only high-profile statement buildings but also more modest, perhaps more humble mainstream schemes. The design of a local supermarket or university building could offer crucial pieces of insight for other practices tackling similar challenges, while providing delight and function.

Architecture is a mix of art, science and diplomacy and I think the special personality type that facilitates getting the balance right explains why I enjoy working with architects. They are often able to be genuinely passionate, while being rigorous, questioning and open-minded.

Their buildings are of course the lasting legacy which outlast political foibles and arguments around budgets, finding their own usefulness and function in the world (or not). They are more than bricks and mortar – they shelter and support us, and in our often unforgiving northern European climate, they are where we spend most of our lives. So quality is fundamental to human happiness.

Achieving that is often about the MVHR or a breathable membrane as much as cladding or space standards, so at ADF we recognise the importance of discussing all of the composite products that make up the whole.

Whether or not we stay in the EU, we are always going to need buildings which work and which offer joy. I look forward to celebrating them with you, and bringing you the ideas and insights from the people behind them.

James Parker, Editor



On the cover...

The winning project in the Arts and Culture category of the ARCHMARATHON held in May in Milan is the Fine Arts Museum of Asturias in Oviedo, Spain by architects Mangado & Asociados. The project created a bold and modern new addition behind the existing urban facade.

© Pedro Pegenaute

For more information, go to page 24.

AIRPORTS

Four high-flyers on shortlist for Heathrow expansion



Heathrow airport has revealed the shortlist of four leading UK architectural practices who will bid to provide the final design concept for the airport's expansion, which includes Grimshaw, Zaha Hadid, HOK and Benoy, as well as conceptual images of their designs.

With the Government due to make its long-awaited decision on whether Heathrow or Gatwick will be the recipient of a new runway as the UK's main hub airport this summer, Heathrow asked the architect to come up with visions of a "sustainable" airport for the future.

In a statement Heathrow airport commented: "We challenged the architects to push the boundary of what an airport could and should be. They were asked to come up with bold ideas to create a world-class sustainable airport that would deliver innovations in passenger service, integrate local communities and showcase the best of British design." Affordability and flexibility were also key to the brief "to ensure that Heathrow remained adaptable in the fast-paced world of global aviation."

The architects will be asked to further refine their briefs in the next phase of the tender process before a final concept designer is selected in July.

Heathrow's head of design Barry Weekes commented: "The visionary concepts are just the start of a dialogue which will fundamentally redefine what an airport is, how it looks and feels, how it interacts with its environment and an increasingly demanding generation of new passengers and importantly enhancing how it connects with the communities around it. Our ambition is to transform Heathrow once again – building Britain a value for money global gateway at the forefront of sustainable development and innovative design." He added: "From welcoming Concorde to the landmark Terminals 2 and 5, Heathrow has always been at the heart of showcasing the best of British innovation and design."

Concepts shown: Grimshaw (top left); Zaha Hadid Architects (top right); HOK (bottom right)

events

CONFERENCES & SEMINARS

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TRADE SHOWS

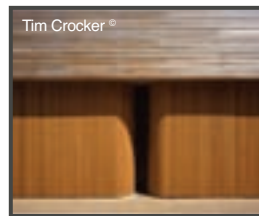
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EDUCATION

RIBA urges Government to review school building programme

The RIBA says that the Government needs to urgently review its current programme of building new schools in order to reduce soaring operational costs across England's education estate from new and existing buildings.

A new report, *Better Spaces for Learning*, claims that the Government could have prevented the English school estate from spending upwards of £150m annually on unnecessary operation and maintenance costs by commissioning better school facilities.

RIBA President Jane Duncan said that poor school buildings were negatively affecting learning: "How can we expect our children to compete with the world's best when too many of our school buildings are substandard? Educational improvements resulting from the current programme of school building are not reaching the basic standards that British taxpayers and our economy expects. We need to do better and we urge the Government to review its programme of building new schools."

The Government has admitted that only 5 per cent of the nearly 60,000 school buildings across the UK are performing as intended and operating efficiently. The RIBA said that the prevalence of damp, leaky classrooms and asbestos-ridden buildings in British schools was causing many pupils and teachers to struggle to learn and teach.

The RIBA report claims that the Government's current programme of building new schools was suffering from a lack of flexibility to make the best possible use of resources, and little opportunity for school staff to input into the design of their own new buildings. RIBA believes that the Government



programme must be improved to guarantee better outcomes.

Jane Duncan added: "This country is in the grip of the worst shortage of school places in living memory. Our report highlights the vital importance of school design and how it affects the general health and wellbeing of their users, our children and their teachers. As limited funding is available to deal with the growing problem, every penny spent on schools must deliver maximum value for money. Award winning well-designed, successful schools with happy pupils and productive staff like (Stirling Prize winner) Burntwood School in London shouldn't be the exception, they should be the standard.

One of the RIBA report's key findings was that good school design can reduce running and maintenance costs in some cases by more than several times a teacher's average salary a year.

news bytes

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industry award...
Ref: 58565

2016 RIBA president's
awards will reflect
current research...
Ref: 86109

UK Government
increases spend by
£62.6bn on projects
since August '15...
Ref: 80119

BDP takes five at RICS Regional Awards

Five BDP-designed projects have been successful in this year's RICS Regional Awards, with two of them winning the top accolade of project of the year. The award scheme has been established to showcase the achievements of the most inspirational regional initiatives and developments in land, property, construction and the environment. The winning projects are:

- Alder Hey Children's Hospital, Liverpool – winner of Community Benefit, Design Through Innovation and Project of the Year in the North West.
- Blackburn Meadows, Sheffield – winner of the Infrastructure award and Project of the year for Yorkshire and Humber.
- Cardiff and Vale College – winner of Design through Innovation for Wales.



- Essex Business School, Colchester – winner of Design through Innovation for East of England.
- Victoria Station, Manchester – winner of Infrastructure in the North West.

These winners will now be automatically entered into the RICS National Awards, where they will compete against other leading projects from across the UK in October.

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ARTS & CULTURE

Borough of Harrow to transform Arts Centre into £17m cultural hub



Following taking over management of the Borough of Harrow council's main arts and heritage sites an independent charitable trust Cultura London has launched a £17m capital development project which will see a local arts centre transformed.

The charity has developed a "vision" for a centre of excellence for culture which will see extensive regeneration and expansion of the Harrow Arts Centre site in Hatch End to provide a new cultural destination in London. Developed in close consultation with the local community, the centre's regeneration will be funded by initiatives over the coming five years.

The project team is led by a practice with significant experience in arts and culture projects Studio ABA (Andrzej Blonski Architects). It has overseen major projects in regional cultural spaces including Theatre Royal Bristol, Theatre Royal Plymouth and Chichester Festival Theatre.

Harrow Arts Centre has been the home of the arts in the London borough since 1988 with an extensive programme of music, theatre, comedy, dance and film as well as community activities.

The project includes major improvements to the Grade II listed Elliott Hall, a new two-screen independent cinema, new rehearsal and studio spaces, bar, restaurant, art gallery, cafe and shop, and a new 600-seat theatre.

Cultura London has been set up to safeguard and transform Harrow's arts and cultural services, which have long been under threat due to cuts in local government funding. The charity joins a growing movement of similar organisations taking charge of community services from local authorities.

Sandra Bruce-Gordon, chief executive of Cultura London, commented: "We are building an exciting future which will transform the cultural landscape of Harrow. Harrow Arts Centre is a precious part of our community – we not only want to protect it, but transform it into a vibrant new site which fulfils the needs of all of its users."

Cultura London is also managing the restoration and reopening of Headstone Manor & Museum, funded by a £3.6m grant from the Heritage Lottery Fund and due to reopen in July 2017.

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AWARDS

Manser Medal joins Sunday Times awards to offer architects prize fund for one-off homes

The Manser Medal, thought to be the UK's most coveted award for one-off house design, has joined forces with the Sunday Times British Homes Awards to offer recognition to architects for outstanding design of homes with a prize fund of £5000.

First presented in 2001 to inspire innovation in house design and create exemplars to be taken up by the wider house-building industry, The Manser Medal was named in honour of Michael Manser CBE, RA, PPRIBA. The new joint award will enhance the possibility of media coverage for the winning architect and their practice.

The Sunday Times British Homes Awards are claimed by its organisers to

have been "pivotal in providing a catalyst for change in the creation of our new homes." The awards, and in particular the annual design competition, inspire architects and designers to join enlightened homebuilders and developers to "challenge conventional practice to shape great places to live, with a real sense of character and identity."

Jonathan Manser, managing director of The Manser Practice commented: "My father is honoured that a Medal was introduced in his name to recognise design excellence in one-off home design. Since Cezary Bednarski's inaugural win in 2001 subsequent winners have earned industry acclaim and public recognition and grown

their business. I am delighted with the plans to further build on this successful legacy with the Medal now enjoying an even bigger profile as an integral part of the highly respected British Homes Awards and with the added attraction of a prize fund for the winning architect."

The short-list for the 2016 Medal will be selected from those designs highly commended this year within the three British Homes Awards categories for a One-Off House or Extension – up to 2,500 ft², between 2,500 and 5,000 ft², and above 5,000 ft². The winning design will be announced at the presentation of Sunday Times British Homes Awards in London in October.



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Rebuilding brick's reputation

James Parker reports from the BDA's Urban Regeneration Day which saw brick on the rise among leading architects.

Architects, contractors and suppliers to the brick industry gathered at Arup's UK head office recently to hear how the quintessential British building material was seeing a resurgence in a range of urban regeneration projects in London and across the UK. The audience invited by the Brick Development Association heard how brick's aesthetic possibilities are increasingly being exploited, although there are supply challenges.

Architects are relishing the opportunity to harness the qualities of brick facades from traditional urban terraces to high-rise commercial and mixed-use schemes. Increasing numbers of projects show designers combining brick's familiarity and longevity with clean modern lines of urban design which it facilitates.

Alexis Harrison, associate at Arup gave a fascinating presentation on design in ceramics ranging from brick's abilities to create smart and innovative commercial brick facades to the possibilities of 3D printing extruded clay buildings in global areas of need. He said that when he entered the industry as a designer at manufacturer Ibstock in 2001, brick was "deeply uncool" but "the world is now a different place – two of the last three Stirling Prize winners were brick buildings; in 2001 no brick buildings were anywhere near the shortlist."

Harrison told the audience that "we are in a paradoxical time where architects want to mix high tech with craft – the tectonics of architecture" and brick is being used to achieve this. He gave credit to manufacturers who were creating artistic bricks which were "crafted with love and care."

Arup projects shown included Frank Gehry's first building in Australia, a new

wing at Sydney's University of Technology. A typically challenging Gehry model was achieved in a solid brick facade using thousands of small steel wall ties. Harrison also said the Turnmill building in London's Shoreditch was an outstanding example (see image and box on next page) and the new Burberry building in west London had transformed a 1960s concrete panel-clad office using solid brick and bath stone.

Peter Murray, chairman of New London Architecture, claimed a New London Vernacular was being seen across the capital with leading architects employing brick facades within residential designs influenced by years spent working in urban housing in the Netherlands.

Murray said that the resulting buildings were emulating the traditional Georgian London Terrace, including residential buildings by David Chipperfield and Martin Richardson which were delivering "highly considered plans" with a keen focus on materiality driving their choice of brick elevations. Harrison agreed that modern Dutch design including big brick soffits has "found its way into the New London Vernacular."

The new chief executive of the Brick Development Association, Andrew Eagles, told the audience 93 per cent of people surveyed across the UK preferred masonry-built houses. He added that the brick industry had made significant investment in tackling post-recession supply challenges to meet demand: "We recognise there have been issues but the industry has stepped up to deliver."

Speakers addressed the housing crisis and the need to build faster as well as better to solve the problems. Eagles said: "The unaffordability of London housing



'In 2001 there were no brick buildings anywhere near the Stirling Prize shortlist'

Alexis Harrison, Arup

Turnmill Building, Shoreditch
© Hufton+Crow

is starting to impact on UK competitiveness. If we are going to reach the challenging targets on housebuilding, we need to go beyond the 10 per cent rise in completions we achieved in April."

Peter Murray said that London needed to provide 60,000-70,000 new homes per year to keep up with demand, and it was currently building 18,000. He joked: "The problem is that every time we start building more the price of bricks goes up." There was some discussion on solutions for delivering the demand needed including the merits of brick slips versus traditional solutions.

Murray's information-packed talk included key current examples of brick projects in and around London including Rainham Library (Maccreanor Lavington Architects) whose "crisp form used punched brick to give a clean, contemporary line," as well as Lifschutz Davidson Sandilands' designs for the first

'Brick is back in fashion'

Lee Marley, MD of
Lee Marley Brickwork

phase of Berkeley Homes' 4,000 home Kidbrooke Village development and a playful residential block at Brentford Lock West by Duggan & Morris and contractor Wilmott Dixon. However it was the high-rise planned by Allies and Morrison for Nine Elms in London which was the real eye-opener among his selection – rising over 20 stories to provide a Manhattan-style brick monolith.

Murray revealed that while at 2008 Venice Biennale influential British architects including Tony Fretton had caused controversy by championing brick design with traditional influences it was now bearing fruit with a plethora of successful schemes in the capital. He said this was also driven by the GLA's most recent London Plan, which "discouraged iconic architecture, instead looking to create great background buildings that weathered well and had longevity."

Murray celebrated the "clarity of detailing" in many resulting low-rise London brick-skinned buildings, but pondered with brick supply still an issue, "who knows what will happen if we actually started building the 60,000 homes we need per year, whether in brick or brick slips?"

Lee Marley, MD of Lee Marley Brickwork said the firm's current job list of 40 live projects (mainly in London) was a clear demonstration that "brick is back in fashion." However, he added this was not without its challenges – "schemes are getting bigger, people want it done quicker but to the same high quality standard."

He discussed logistical challenges on urban sites and also gave examples of how brick craftsmanship was still being demanded and unusual aesthetic briefs were common such as the seemingly

random gradated elevations on the Trafalgar Place development at London's Elephant & Castle.

Alex Gordon, associate director at architect Jestico+Whiles, presented a major regeneration project in Leeds showcasing brick's relevance to provide a link to the past as well as provide crisp modern architecture. The Homes and Communities Agency scheme is turning the Victorian industrial area of Holbeck in the city centre into an "urban village" where new commercial and residential buildings mingle with listed buildings creating a dynamic quarter with new public squares planned around three historic brick towers. Gordon said the project "used brick in a muscular and simple way" and showed how it exploited the potential of brick detailing to express and reinforce visual elements within the elevations.

The Turnmill Building, Shoreditch: a brick celebration

Alexis Harrison, Associate, Arup

This award-winning, iconic brickwork building incorporates 75,500 ft² of space including offices, restaurants and retail. Its seemingly simple brick and lime mortar exterior hides a multitude of complex details, and fits into the playful yet historic architectural character of its surroundings, providing an attractive gateway to Clerkenwell.

Arup's materials expertise helped ensure that this huge but gentle structure with its elegant and distinctive brick facade fulfilled the vision of both the client and architect. Arup provided specialist brickwork materials advice to the design team, for what proved to be a challenging brief.

The architect's elevations and digital renders showed an apparently massive, load-bearing masonry facade with deep openings carved into it. However, at a macro scale, the brick samples and

materials palette suggested something gentler – with large, light-filled openings, framed in slender layers of soft yellowy clay bricks sandwiched in creamy lime mortar.

The narrow brickwork piers and spandrels are combined with unusually deep cills, reveals and soffits. Cunning technical and visual tricks have been used to give the appearance of horizontal bands of solid masonry.

The majority of bricks are hand set, but brick-faced precast units are seamlessly combined with hand-set units to provide the 'floating bricks' that form the window soffits. Wide spans occur between structural columns to allow the glazed openings for the street level restaurants, meaning that cleverly disguised vertical movement joints had to cut through the spandrels to deal with slab edge deflections and other movements.

Arup's close collaboration with the

architect and other consultants throughout project was essential to the success of the facade. This included providing detailed tender documents to the specialist brickwork contractor to provide certainty of developed solutions, reduce costs and ensure the architect's vision and the client's expectations were not compromised.



news bytes

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Design International
picks up global
award for Kingdom
City Mall...
Ref: 20113

Manser Medal joins
Sunday Times awards
to offer £5000 prize
fund for home design...
Ref: 11043

An aerial, isometric illustration of a city. In the center, the words 'BIM BRICKS' are rendered in large, 3D block letters. 'BIM' is in teal with a bar chart icon above it, and 'BRICKS' is in dark grey. To the left of the logo are three stacks of gold coins. To the right is a green recycling bin. Further right is a construction site with a red crane and a yellow excavator. In the bottom right corner, there are three white wind turbines. The background shows various city buildings, roads, and green spaces with trees.

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(L-R) James Potter, Phil Waind and Sonya Gohil

practice profile

Norman Hayden meets WG+P,
a young London firm going places.

September 15, 2008 is a date Phil Waind will not forget in a hurry. As the global financial crisis bit hard, his fledgling practice hit what turned out to be its low point. “Lehman Brothers filed for bankruptcy protection, and our phone rang twice. Both calls were clients suspending designs,” he recalls.

Phil and fellow director Sonya Gohil had set up Waind Gohil Architects (WG+A) in 2005 and opened their Shepherd’s Bush, London studio in July 2007, with two members of staff and a very modest turnover undertaking mainly residential projects for private clients. But the financial crunch forced them to cut the team of five they had built up as the outlook became far less rosy during this very uncertain period.

They fought back and their optimism, hard work and persistence paid off as the directors began to turn things around. “We secured planning approval on our first significant housing development – Raymond House in Enfield,” says Phil.

By 2010 things had improved to the point where opportunity started to knock on the door of smaller practices. “We had ambition to develop the practice into commercial sectors, including housing and leisure. Opportunities came, and relationships were formed, leading to multiple unit housing developments, an extension to a modernist church, new one-off houses, holiday homes and hotels. As a result, the practice grew quite quickly to around 12 architectural staff.”

December 2013 proved to be a big landmark as WG+A became WG+P. James Potter, previously a director at The Manser Practice, joined the team as a director. James’ significant experience in the design and delivery of large-scale buildings clearly complemented the team, Phil says: “We shared the vision to provide a great service and buildings which exceed expectations.”



Core Collective Gym Kensington

Has the practice approach changed along the way? “When Sonya and I set up WG+A in 2005 we had a vision to develop a design-led studio, with commercial understanding, and an outstanding level of service,” Phil explains. “Simplicity Beyond the Obvious was the strapline we used to describe our process of interrogation of complex (and sometime opposing) design constraints and opportunities, to distil rational, coherent solutions.”

In those early days Sonya developed her skills in the financial control and management of an architectural firm, while Phil established essential relationships with clients and colleagues, along with learning more about the importance of entertaining!

On the delivery side, Sonya harnessed her interest and specialism in conservation, while Phil, whenever possible, brought his interest in experimenting with fabrication processes into play.

Early residential projects in London that shaped their approach included structural glass and economic timber-framed extensions. Through these projects WG+P was able to develop and hone the role of a designer for construction/fabrication processes – or, as product designers would put it: “design for manufacture”.

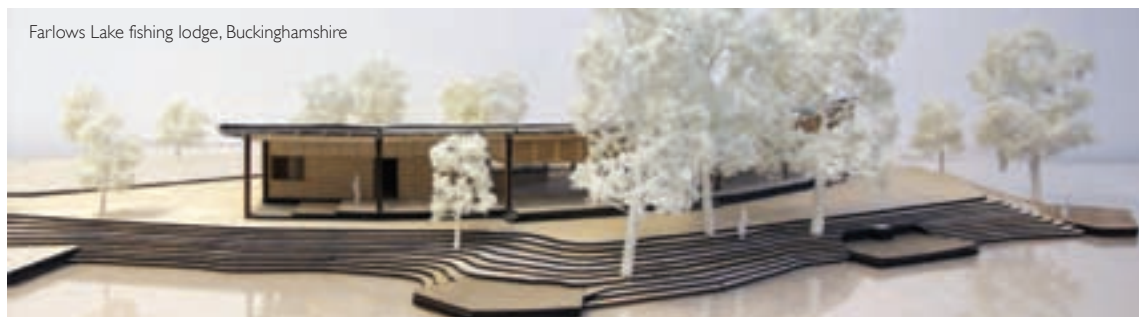
This approach, including identifying the appropriate construction/fabrication process for each project at an early stage, and reinforcing this at every scale, is inherent in the practice’s design process today.

Designing for construction/fabrication, WG+P devises a clear strategy to meet the various scales of requirement, opportunity, context, cost and programme, with the process providing form, materiality, decoration and sustainability of contemporary built results.



Regeneration: Ipswich Westgate Masterplan

Farlows Lake fishing lodge, Buckinghamshire



'The key to our work is an enthusiasm to deliver modern, coherent designs'

WG+P Architects

As well as undertaking commercial projects, WG+P applies research and development in construction methods and emerging sectors, and partners lecture at schools of architecture.

How do the three directors set the tone with their passion for appropriate, contemporary architecture? The individual strengths of the directors compliment each other: Phil spearheads strategy with James focusing on execution, while Sonya oversees practice management. Their experience, gained over 50 years of running large-scale projects in commercial practice, is blended with an expanding team of 17 highly-motivated and talented architectural staff.

From their W12 studio they have structured the office into teams and set out formal design review/crit processes. The core principles and approach from the early projects is retained, but with a structure capable of undertaking varied projects from a large-scale 35,000 m² mixed-use masterplan in Ipswich, including 450 units; to highly bespoke and innovative residential extensions and new homes.

"We have also developed specialisms," says Phil. "With ongoing research and development, in new fabrication processes and sectors such as spaces for the latest gym concepts – such as the Core Collective Gym in Kensington – and the recycling of pre-owned modular buildings as low-cost housing solutions."

James Potter describes some of the current projects. First, the Core Collective: "This project is at the forefront of the emerging 'wellness' sector that encompasses a broader spectrum of well-being rather than focusing solely on physical conditioning. It has led the way to a series of further projects with start-ups and operators in the wellness sector."

On the Westgate Masterplan, Ipswich James says: "This is an exciting and significant public realm and regeneration project on the town's inner ring road, moments away from Willis Faber Dumas's site famously redeveloped by Norman

Foster in the 1970s. The project offers hotel, residential and retail buildings."

Lastly, Farlows Lake fishing lodge, Buckinghamshire: "This is significant for the practice" says James: "it is a rare building that is both wholly new, contemporary and within London's Greenbelt in an attractive lakeside setting. The scheme utilises off-site fabrication to improve the quality and lessen time spent on site – two areas of design and construction process close to our heart."

One of the current challenges for the team is developing the practice's portfolio of completed projects whilst maintaining and improving the quality of the designs. "This is by no means a challenge unique to a young practice such as ours," James adds. "But we hope to have put enough effort into our business plan and the systems necessary to support its realisation in the future."

"We want to strengthen and develop our approach to innovation with commercial understanding as part of the design approach. This will undoubtedly evolve as we explore the possibilities for off-site fabrication, where appropriate."

Looking ahead, Phil feels the key is an enthusiasm to deliver modern, coherent designs: "We believe the creation of space is an enriching and positive experience to which we enjoy devoting our time and energies. We invite clients to put their faith in our ability to inspire and innovate."

Based on a talented and committed team at Shepherd's Bush, WG+P is looking to maintain its specialisms while taking on larger and more sophisticated projects and so double in size within the next five years.

With all three directors still under 40, the future trajectory is full of promise.

Norman Hayden – norman@netmagmedia.eu

WG+P Fact file

Waind Gohil + Potter Architects is a RIBA Chartered practice of 17 architectural staff based in West London, working in the housing, leisure, community and emerging wellness sectors. Designing for construction / fabrication, WG+P devise a clear strategy to meet the various

scales of requirement, opportunity, context, cost and programme, with the process providing form, materiality, decoration and sustainability of contemporary-built outcomes.

As well as undertaking commercial projects, WG+P apply research and development in construction methods and emerging sectors, and lecture at schools of architecture.

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my view

Rory Bergin, partner at Sustainable Futures, HTA Design says EU architects have enriched the UK, but Brexit risks an end to those benefits in future.



There are more than enough articles that discuss the economic effect of Brexit and I am no economist, so I am going to leave discussion of the possible impacts to them. Suffice it to say that if there is a negative impact on the UK's economy, then the architecture profession will feel it first. Some firms already report a slowing down or pausing of work while clients and investors wait for the result of the referendum.

I would rather think about some of the great Europeans who have come to the UK over the years and had a big impact on our architecture and our culture. If we leave the EU, the chances of other similarly gifted people coming to work here will be lessened and our lives and culture will be the poorer for it. Leaving the EU sends a message that we want to be left alone, that we are unwilling to work closely with our neighbours, that we don't want to share the benefits of our advanced and civilised culture and that we would prefer to leave rather than accept the principle of free movement within the EU.

Under such circumstances would any of the following rollcall of great names in architecture have come to the UK?

Berthold Lubetkin – born in Georgia but emigrated to Paris, and came to the UK in 1931 to set up Tecton. Responsible for some of London's most iconic buildings, the Penguin Pool at London Zoo and the Finsbury Health Centre among them. He also worked for government clients, designing many post-war rehousing projects like the Spa

Green Estate. Never a purist, brought his own personality and wit to his projects which turned what could have been cold realisations of modernist principles into buildings which respected their context and which remain well liked by their occupants. Many of his works are now listed.

Erno Goldfinger, born in Hungary, came to London in 1934 and moved into Highpoint I, designed by Tecton. He designed and built a small terrace of Modernist homes at Willow Walk in Hampstead before WWII, one of which is now owned by the National Trust. After the war he became a specialist in housing design, responsible for two of the most iconic tall buildings in London; Trellick and Balfron Towers. Brutalist but sophisticated in their design, they were divisive when completed but are now admired by all by the most regressive of critics and are sought-after places to live. Never a genial man (he was the inspiration for the Goldfinger character in James Bond), despite this his estate has the legacy of a scholarship to Hungarian architecture students wishing to travel to the UK.

Erich Mendelsohn left Germany to escape Nazism in 1933, leaving a successful practice with an international reputation. For three years he worked with Serge Chermayeff, a Russian architect and Felix Samuely, an Austrian Engineer. Their collaboration produced the De La Warr Pavilion in Bexhill, one of the best examples of modernist architecture in the UK. Its streamlined form was the

perfect interpretation of its time for patron Herbert Sackville, who had sponsored the first English public motorsport races held in the same south coast town.

Jan Kaplicky worked in private practice in Czechoslovakia but fled after the Soviet invasion of Czechoslovakia in 1968, he escaped to London where he worked for Denys Lasdun before setting up Future Systems. This team has been responsible for some truly innovative work including the Media Centre at Lord's cricket ground and Selfridges in Birmingham.

Leon Krier came to London from Stuttgart to work for James Stirling in 1983 and stayed for another 20 years. His influence has been far-reaching, and divisive, but few would argue that he has contributed enormously to our ideas and culture.

The list goes on, Demetri Porphyrios, Peter Chlapowski, Andrew Ogorzalek and many others have come and added their enthusiasm and talents to ours and we are the better for it. Many came as immigrants, some as refugees, and found a welcome for their talents and skill. All of them serve as compelling evidence that our arts and culture are stronger for being open and welcoming.

This referendum is a very important test for democracy, and it is vital that you use your hard-won vote. Whatever your motivation, think of the very many people who are affected by this vote who have no vote and get out there and exercise your democratic right!

‘Leaving the EU sends a message that we want to be left alone, that we are unwilling to work closely with our neighbours, that we don’t want to share the benefits of our advanced and civilised culture’



Andrew Tang

site lines

Andrew Tang of Pellings spells out the design lessons for secondary schools as they expand to meet the intake 'bulge.'

St Mary Magdalene School, Woolwich – a £7.6m new build primary school re-built on the site of the original Victorian school. The Voluntary Aided St Mary Magdalene C of E School in the Diocese of Southwark increased in size from 1FE to 2FE through the use of a robust design methodology that incorporates 'playdecks', providing external playspace on four levels of the building



Having worked for the past 10 years, largely in the primary education sector, I have been involved with a number of projects directly related to the so-called population 'bulge' the UK is undergoing. We have now seen this issue migrate gradually to secondary education and frequently find ourselves asking: how we can draw on our experience from primary and transfer the knowledge to the secondary sector?

In theory, forecasting secondary school place requirements should be fairly straightforward. Primaries have been dealing with an increase in pupil intake for several years – made up of both the bulge (a consequence of an increase in birth rate since 2012) and longer-term growth in school age populations, particularly in London and the South East, which is also driving housing demand.

It is very likely that the vast majority of the (up to) additional 300,000 secondary school places will be found through expansion of existing schools, as has been the case with primaries. Finding land and

achieving consent for new schools in the areas of need is extremely tough, as many academies have discovered. In addition, the relatively short timescales mean that there is little choice beyond building within the curtilage of existing schools.

In my experience, there are six key lessons to be learned from managing the demand for primary places:

Early engagement reaps rewards

Successful school expansion projects start long before an architect is appointed. Key stakeholders need to be identified and engaged with before the project enters design stage. Parents and teachers generally don't react well to having expansions imposed on them, no matter how pressing the requirement. However, this does not mean that objections cannot be overcome or at least minimised, and architects are experts in using a whole range of techniques to listen and communicate.

Take a campus-wide approach

Many school campuses have developed piecemeal and a review of existing accommodation, followed by what can often be fairly straightforward remodeling, can increase the efficiency of the school and thereby improve curriculum delivery. The value of this pragmatic approach should not be underestimated, as an efficient use of existing space reduces the need for new construction and can deliver a higher quality environment within finite budgets. The assessment of external space is equally important and together with an understanding of how pupils use these spaces, is critical to providing flexible, covered or all-weather space which can deliver intensive year round use.

With expansion projects becoming more common within fixed school boundaries, and often within confined sites, this process is key to a successful outcome. Equally, analysis must extend beyond the curtilage of the school site to look at the marriage value of adjacent sites. For example, as part of a recent design competition we looked to a bordering disused care home as an option for amalgamation with an existing school.

Design for the actual need

Architects are, by nature, aspirational and endeavour to realise their vision. However, if my experience of primary school expansion is the norm, and I suspect it is, there is little place for ego in this type of work. This does not mean that we must compromise in terms of quality, with key standards such as BB103 and the EFA's Baseline Designs

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Blackfen School for Girls, Kent – £2m secondary school refurbishment and expansion. Pellings designed a 735 m² extension at the front of the existing school to provide an attractive appearance consistent with a modern performance-orientated environment



'If my experience of primary school expansion is the norm, there is little place for ego in this type of work'

for Schools treated as guidance.

However, every pound of budget will have to work extremely hard, and tough choices need to be made. Pellings' approach of agreeing non-negotiable "must have" outcomes with sponsors, school managers and teaching staff during design development means that an overall solution is developed that delivers best value for all parties. To achieve this, the design team must have great expertise in all aspects of design not least of which is keeping abreast of the developing technologies and construction methods. This allows us to help non-expert clients make the best decisions.

A good example is modular (volumetric) construction of which, in my experience, many primary school clients hold very negative preconceptions, usually based on decades old practices. However, 21st century modular buildings are a world away from the cabins of old in terms of performance, and still offer the advantages of short construction timescales, so speeding up projects. In addition, through selection of facades, such as Trespa panels or brick slip systems, a wide range of aesthetic objectives can be achieved.

A modular design strategy could, for example, focus on the interfaces that users have with the buildings, as it allows each school to tailor each building towards its particular needs. This can be achieved while standardising the elements that are of less interest to the

schools such as structural elements, form of construction, fenestration, door openings, etc. The quality of design remains critical, however, with high quality educational buildings having a demonstrable impact in facilitating curriculum delivery. This helps to recruit and retain staff and in providing flexibility to conform to developments in approaches to teaching and learning.

Design for flexible use

Flexible design has been a key trend in primary schools and I firmly believe there are lessons to learn for secondary schools. The challenge is greater because of the many specialist teaching areas in secondary schools such as laboratories or sports or arts and design. However by understanding requirements and, for example, specifying building services for multiple uses, spaces can be reconfigured far more cost effectively in the future.

Add value

The best educational architects are able to deliver more than just the basic accommodation needs, while not compromising budgets. Indeed, this is the real challenge for myself and the team at Pellings and the real satisfaction comes from exceeding client expectations and delivering something that delights. The specific requirement for secondary schools is likely to be different from primary.

For example, issues such as branding are generally more important for secondary schools. Adding value in terms of creating areas that give parents, pupils, and staff pride in the school can be quite simple such as via creative use of graphics, and spaces that allow for a wide range of working practices. Striking design, investment in external space and good connectivity all add value to a school and engage the community.

Understand who the client is

I would argue that a good design outcome is result of having a clear vision of how education will be delivered and how this is translated into a thorough brief. In considering the experience gained from primary school projects, it is important that we do not lose sight of the fact that secondary education will often have distinct criteria and approaches to similar problems.

With ever-increasing pressure on local education authorities to cut back and with government enthusiasm for privately-funded academies, there is a great opportunity for expert educational architects to provide creative solutions to the secondary school 'bulge' within the confines of existing school sites or adapting buildings previously occupied for alternative uses.

*Andrew Tang is Associate Architect, Pellings
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FINE ARTS MUSEUM OF ASTURIAS, SPAIN
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This new museum addresses a complete complex, including the future of two historic buildings in Oviedo, Spain – Velarde Palace and the Casa Oviedo-Portal. Only through such a comprehensive design approach could the optimal functioning of the Fine Arts Museum of Asturias be guaranteed. The project addressed the design challenge of raising an altogether new building within the existing urban complex. The sequence of existing facades was taken as a contextual condition and these facades take on the role of an urban 'backdrop', against which to erect a new building with a facade of its own. The exterior is glazed, giving the new museum a bold but complex image.



SOS CHILDREN'S VILLAGE, DJIBOUTI
URKO SÁNCHEZ ARCHITECTS

SOS Children's Village is a new medina for children in the Horn of Africa, which has been designed to cope with extreme weather conditions and to respect community traditions. Urko Sánchez Architects was approached by international children's charity SOS Kinderdorf to design a residential development of 15 houses where they could run their family-strengthening programmes. In terms of distribution, all houses follow the same scheme but are arranged in different ways, placed close to each other giving shade to one another and generating alleys between them in an apparently random way. The designers introduced natural ventilation towers where needed.

exploring architecture

Showcasing some of the winners of the 2016 ARCHMARATHON
International Architecture Awards, held in Milan in May



SEASHORE LIBRARY, CHINA
VECTOR ARCHITECTS

Seashore Library is located inside a holiday resort on Bohai Bay in north eastern China. The resort aims to create a high quality environment closer to nature and Seashore Library is one of a series of cultural and leisure facilities within the complex. According to the architects the key aspect of the design is "exploring the co-existing relationship of the space boundary, the movement of the human body, the shifting light ambience, the air ventilating through the building and the ocean view." The library houses a reading area, a meditation space, activity room, a bar and a resting area. Responding to each space, Vector Architects established a distinctive relationship between space and the ocean and defined how light and wind enters each room.



VÅLER CHURCH, NORWAY
ESPEN SURNEVIK

The open international competition for Våler Church is one of the largest ever seen in Norway, with 239 proposals from 23 countries. The new church replaced a much-loved ancient wooden church which burned down in 2011. The building's expression was generated as a direct response to the place, and organised around a quadrant with four oriels pointing north, south, east and west, as an analogy to the old cross-church. The new church is placed on the existing processional axis, and clad in straight board of heartwood pine, reflecting the local forest landscape. The interior is covered in birch plywood, achieving an expression of lightness.



MERCHANT SQUARE BRIDGE, LONDON, UK
KNIGHT ARCHITECTS

The competition-winning design for the replacement opening footbridge at Paddington Basin spans 20 m across the Grand Union Canal at the heart of the new waterside Merchant Square development. The design has been highly considered in respect to high quality new architecture and landscape in the location, and from elevated as well as ground level viewpoints. The five steel beams forming the deck open in sequence and shaped counterweights assist the hydraulic mechanism and reduce the energy required to move the structure. In motion it is an eye-catching kinetic sculpture, which is well suited to the position in Merchant Square.

EXHIBITION

Venice exhibition celebrates the breadth of Zaha Hadid's creativity



'Bringing together Hadid's built, under-construction, in development and unrealised designs the exhibition captures the pioneering research and investigation that instigates and defines Zaha Hadid Architects' work'

Staged to coincide with this year's Venice Architectural Biennale by Italian arts and crafts organisation Fondazione Berengo, an exhibition in Venice is celebrating Zaha Hadid's four-decade career in architecture and design.

Held at the 16th century Palazzo Franchetti on the Grand Canal, Venice, Italy until 27 November 2016, the exhibition features paintings, drawings and models from Hadid's repertoire, conveying the ingenuity and dynamism of her architectural projects in a variety of media including photography and film.

Bringing together Hadid's built, under-construction, in development and unrealised designs the exhibition captures the pioneering research and investigation that instigates and defines Zaha Hadid Architects' work.

Early works displayed include Malevich's Tektonik, Hadid's fourth-year project bridging the River Thames undertaken at the Architectural Association School in London. Also showcased are unrealised works including the competition winning Peak Club, Hong Kong, Hafenstrasse, Hamburg, Grand Buildings, Trafalgar Square, Victoria City master-plan for

Berlin and Cardiff Bay Opera House.

Three projects are singled out in the exhibition as milestones in Hadid's career; Zaha Hadid Architects' first completed project the Vitra Fire Station finished in 1993 in Weil am Rhein, Germany; the Rosenthal Center for Contemporary Art in Cincinnati (completed 2003), which contributed to Zaha Hadid being awarded the Pritzker Architecture Prize in 2004; finally the MAXXI Museum of 21st Century Arts in Rome (completed 2009). The latter in particular implemented the practice's wide-ranging experimentation with the rapid advancements in computer-aided design.

Hadid described how paintings formed a key part of her process: "My paintings really evolved 30 years ago because I thought the architectural drawings required a much greater degree of distortion and fragmentation to assist our research. It might take 10 years for a 2D sketch to evolve into a workable space, and then into a realised building. And these are the journeys that I think are very exciting, as they are not predictable. For example, I used to produce hatched lines on my drawings. These became striated models, which

eventually became the diagram for MAXXI Museum."

The exhibition juxtaposes these early designs with projects such as the BMW Central Building in Leipzig (completed 2005) within a landscape of models that integrates project typologies, formal composition, geography and chronology.

Also featured in the show are Helene Biner's photographs, capturing the integrity and materiality of Hadid's projects from the Vitra Fire Station in 1992 until the present with Salerno Maritime Terminal in Italy.

All of Zaha Hadid Architects works in progress will be exhibited, including projects to be completed this year including the Port House in Antwerp, The King Abdullah Petroleum Studies and Research Centre (KAPSARC) in Riyadh and The Mathematics Gallery at London's Science Museum will open in December. Also included in the exhibition are models, relief studies and visualisations of a residential building on the High Line in New York that will complete in early 2017.

Through detailed exploration of two projects currently under construction, the also shows how the practice's in-house computation and design research team (CODE) harnesses interdisciplinary collaboration between architects, engineers and emerging digital manufacturing methods for a collective research culture.

Adriano Berengo, president of Fondazione Berengo said, "Visitors to the exhibition will have a greater understanding of Zaha Hadid's pioneering vision that redefined architecture and design for the 21st century and captured imaginations across the globe."

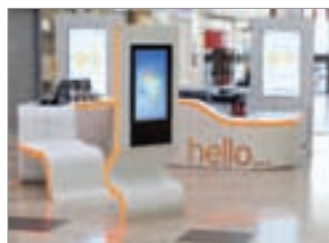
In 2011, Zaha Hadid stated, "I know from my experience that without research and experimentation not much can be discovered. You think you're going to find out one thing, but you actually discover something else; you discover much more than you gain for."

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International Industrial Metals' RIBA-approved CPD, 'Lead – uniquely recycled for a better informed decision' examines the sophisticated process by which lead is extracted from car batteries to be re-formed as BS EN 12588 rolled lead sheet. With only one such plant in the UK, over 95 per cent of the constituent parts of any battery are recovered, this provides a total chain of custody and scope to specify Code 3-8 material which presents the lowest environmental impact. With material uses extending from roofing to rainscreen panels, lead is the most recycled material in construction with a BRE Green Guide A+ rating.

07000 256467
www.almhm.co.uk
enq. 120

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Lithofin, from **Casdrion** is one of the market leading brands of scientifically advanced products for keeping tile and stone surfaces in optimum condition. Training is very important at Lithofin, with several courses to train architects and professional contractors in applying the correct products to the vast range of stone and tiles that exist in the marketplace. 'Chemicals for cleaning, protecting and maintaining stone and tile surfaces' covers the use of chemicals at each stage of a project; problem solving help; different finishes; difference between impregnators and sealants; sealing polished porcelain; lifecycle costing; and safety/ecological issues.

01962 732126
www.casdrion.co.uk
enq. 122

Double feature for Ideal Commercial Boilers



Leading British manufacturer **Ideal Commercial Boilers** has appointed two new Sales Support Engineers to join their busy commercial sales team. With an increased presence in both national and independent merchant branches, Ideal is delighted to introduce Jenny Hawkes and Sian Maxwell as they

help promote the brand, product range and support available to Ideal's customers. Jenny and Sian join a team of professionals dedicated to Ideal Commercial Boilers commitment toward delivering the highest levels of product quality and customer service, helping to maintain a standard that is over 100 years in the making.

01482 492 251 www.idealcommercialboilers.com

enq.123

Record attendance at passivhaus seminar



The success of REHAU's most recent Passivhaus seminar is evidence, the company says, of the demand from across the construction industry for information and advice on this growing sector of the market. Even on a day when the London transport system was severely disrupted by a rail fire, the event held at the Siemens Crystal building in

Docklands attracted around 100 delegates. The vast majority of these were architects and specifiers keen to learn more about the requirements of the three new Passivhaus classifications and the range of products from REHAU which are Passivhaus certified. The Passivhaus Trust were also there to give their backing to the event, and the feedback from those who attended was very positive.

01989 762600 www.rehau.uk/Passivhaus

enq.124

Enter Aluprof's Building of the Year Competition!



The successful 'Building of the Year with **Aluprof Systems**' competition has been launched for 2016 and now the competition goes international. Aluprof are requesting entries from any architectural practice which has specified and completed a project in their systems. The deadline for entries closes on June 30th, it is free to enter and application is simple taking only a few minutes to complete on-line at konkurs.aluprof.eu/en. First prize is worth £9,000 in prize money, applications can be made online. The Final Gala of the architectural competition Building of the Year in Aluprof systems 2015 was held on 26th September at the Hotel Warszawianka Wellness & Spa in Warsaw. The corridor leading to the banqueting hall was decorated with some images of Polish competition entries and a wide range of spectacular buildings from across the world. In the UK Aluprof's head office and extensive distribution centre is located in Altrincham, Cheshire. In London, Aluprof have a dedicated design support office for specifiers located at the Business Design Centre in Islington. Aluprof systems are increasingly being specified on a wide range of residential and commercial projects across the UK. Systems are designed, fabricated and installed by selected, specially trained companies, to ensure each fabricated product meets the Aluprof exacting standards.

0161 941 4005 www.aluprof.eu

enq.125

Marc Overson joins Panasonic UK



Panasonic is delighted to announce the appointment of Marc Overson to Panasonic Heating & Cooling, who joins the team as the Country Manager for the UK & Ireland. Marc Overson joins Panasonic from the European air conditioning division of Samsung Electronics, where undertaking the role of the

European B2B & Distribution Sales Manager, he gained a broad understanding of the European heating and air conditioning market. Marc succeeds in this position from Marc Diaz, who returns to the Panasonic operation in Spain. Marc will focus on building market share within the commercial air conditioning arena, a key growth target area for the company in the UK & Ireland. The reinforcement and development of Panasonic's sales distribution network and support services are of primary importance.

enq.126



Bespoke loading bays from Stertil Dock



An installation of 99 loading bays has been completed by **Stertil Dock Products** to support a revolutionary new DHL distribution hub at Manchester Airport City. The installation features six loading bays most of which comprise WE 574 collapsible frame dock shelters, XF 3020 dock levellers, Thermadoor sectional

insulated doors and wheel guides plus LED dock and traffic lights. However, two of the loading bays, designated to accommodate double deck vehicles, incorporate extra height WIS dock shelters featuring revolutionary head curtains.

0870 770 0471 www.stertildock.co.uk

enq.127

Armstrong Ceilings sets another record

A rapidly expanding network of Green Omegas (specialist sub-contractors with equally specialist recycling expertise) has helped **Armstrong Ceilings** break its recycling records for the second year running. The manufacturer recycled a total of 142,000m² last year during which time nine members of Armstrong's 136-strong Omega network of approved installers proved their recycling expertise to such an extent that they qualified as Green Omegas. That 142,000m² equates to 495 tonnes or more than 528 skips which would have cost contractors almost £100,000 in landfill tax. All of the returned material has been or will be used in the manufacture of new mineral ceiling tiles, saving the company (which does not charge for the service) more than £28,000 in virgin materials. And not only is the scheme saving contractors money, the Green Omega accreditation is also making them more money.

0800 371849 www.armstrong-ceilings.co.uk

enq.128

Gilgen launches SR5-B security shutter



In response to heightened global security threats, **Gilgen Door Systems**, manufacturers of the Rolegard™ range of LPS1175 approved security shutters, has launched a unique SR5 rated shutter that combines the highest physical attack standard yet achieved in a security shutter with unrivalled

ballistics and blast protection properties. Rolegard SR5-B is designed to help protect facilities against emerging threats such as hostile incursion and swarm attack. Complying with insurance and police preferred 'secured by design' standards, Rolegard SR5-B offers first line defence against experienced attempts at forced entry.

01425 462000 www.gilgendoorssystems.co.uk

enq.129

Ahmarra launch the Education Range



Specialist timber fire door manufacturer, **Ahmarra Door Solutions** has launched a new range of made-to-order doorsets for schools, colleges and universities. Managing Director, Tim Doran said: "Our aim is to make the process of specifying doorsets for schools as simple and practical as possible, using our

many years of experience in this sector". The range consists of 22 door types each with an associated ironmongery pack to perform a specific function and clients will be able to make significant cost savings by eliminating the need to re-define doorsets and ironmongery for every project. For more information visit the company website.

enq.131

Introducing the new Bond



Acting on intelligence out in the field, undercover fixing specialist **Ancon** has launched a new super-Bond, ultra-low thermal conductivity wall tie that even *Spectre* would find hard to crack! The new

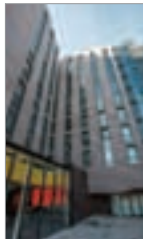
Teplo-BF basalt fibre wall tie features

specially moulded safety ends that improve buildability and enhance mortar bond strength by up to 80 per cent. The Teplo-BF is created by the setting of innovative pultruded basalt fibres in a resin matrix. This composite material provides a combination of high strength and outstanding thermal efficiency. The new Teplo-BF wall tie also carries BBA and NHBC technical approvals.

0114 275 5224 www.ancon.co.uk

enq.130

NVELOPE achieves top class finish



Thanks to the installation of NVELOPE cladding support systems, a purpose built mixed use development in Liverpool features an attractive external envelope that adds a bold statement to the city centre. Paramount is a 10 storey mixed use development that has been built on the land where the Paramount Theatre was previously located. Following the regeneration of the area, the development comprises of top quality student accommodation, a spa and gym, as well as commercial space. Manufactured from aluminium alloys,

NVELOPE's NV3 system is ideally suited for concealed fix or mechanically fixed vertical cladding applications. The system is secured using hangers and undercut stud anchors or screws to provide a concealed fixing.

enq.132

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enq.133



TTA Awards – another tiling industry success

The TTA Awards gala dinner and presentations in May celebrated the very best in the wall and floor tiling industry. Held at St John's Hotel and Conference Centre in Solihull, with a Brazilian theme to tie in with this summer's Rio Olympic Games, the event saw the winners from a wide range of categories claiming their trophies and certificates. Hosted by ITV's Emma Jesson, the event also raised almost £3,000 for the TTA's chosen charity, Children Today. This is in addition to more than £71,000 which has already been raised by the TTA during its ten-year support for this charity. The TTA wishes to convey congratulations to all of the winners – and equally to all those businesses and individuals who were finalists. And thank you to all the companies who submitted entries. The quality and range of awards submissions proves what a healthy state the industry is in. Gold sponsors for the event were Bellota, N&C Nicobond, Norcros Adhesives and Shackerley.

0300 365 8453 www.ttaawards.com

enq.134



Circular Fusion brings focus to campus

As its name suggests, Bournemouth University's Fusion 1 building has been designed to foster collaboration between teaching, research and the business world, but it also helps give a much-needed focus to the campus. Mark Smulian reports.

University campuses that have grown up in an ad hoc way can lack any focal point, and so it has been with Bournemouth University's main Talbot site.

Not for much longer though. Later this summer Fusion 1 will be complete, an essentially circular structure four storeys in height that will form both a social and teaching hub.

The area around the building is already occupied on two sides and under the university's development plan the remaining sides – currently occupied by a car park – will be

filled in, putting Fusion 1 in the slightly strange position of being a 'building with no back,' highly visible from all sides.

The university wanted the building to reflect the 'fusion' concept that underlies the educational body's ethos – that teaching, research and links with business and industry should work seamlessly together with staff and students engaged in each aspect learning from each other.

Fusion 1 will in total cost £22m and provide some 5,800 m² of space that will not be owned by any one faculty.

‘The main architectural challenge was that the building would have no obvious back as it is in the middle of the campus with fronts to all sides’



Most of its lecture theatres, rooms and break-out spaces will be available on a first-come first-served basis.

The university, then known as Bournemouth College of Technology, began to develop the suburban site (a few miles from the coast for which the town is best known) in the early 1970s but it had grown up piecemeal.

In addition to designing Fusion 1, architectural practice BDP has created a development framework intended to ensure that over coming decades new buildings on the campus

fit harmoniously within their surroundings.

Main contractor Willmott Dixon was appointed by the university from the Scape framework run by a group of local authorities, and has now partnered the university on several buildings.

BDP’s Keith Papa, who designed the building, explains: “The brief from the university was that they wanted a building that would collect other facilities that were scattered across the campus as it had grown up, as well as also becoming the main hot food service outlet.

“The site had been a car park right in the middle of the campus, and it was rather odd that the university had grown up around it. They needed to do something with the site.”

While the site presented no notable technical issues, Papa says the architectural challenge “was much more that the building would have no obvious back as it is in the middle of the campus and the development plan we have drawn up allows buildings to be sited around it, so this building has fronts to all sides, which is difficult for example when it comes to where you site the bins for the catering”.

Fusion 1 is built on a concrete frame rising from the ground and a steel frame descending from the roof. Inside, most walls are plasterboard to allow for future flexibility.

On entering the building for the first time, a major internal



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design feature offers an instant ‘wow’ moment – a steel ‘tree’ in the central atrium rises the entire height of the building to support the glazed roof. A few real small trees serve as further ornamentation for the space.

One’s eye is drawn up to the huge cylindrical space around the tree. The structure is otherwise held up by concrete columns and outside there is curtain walling and zinc and aluminium cladding to mitigate the “dull grey colour that zinc can have” Papa notes.

Two circular ‘drums’ that part-protrude from the structure contain three lecture theatres while elsewhere the building has a series of balconies at angles on alternating floors, a feature that has already led to Fusion 1 being nicknamed ‘the wedding cake’ by campus wags.

Steve Cox, the university’s head of estates development, explains that one of Fusion 1’s main functions is as the centre of university catering.

At present catering space is managed by a contractor and unavailable for other uses when closed but as part of Fusion 1’s key feature of providing flexible space the 220-places dining area can be put to other uses outside serving hours. Next to it on the ground floor is the kitchen area. This pulls off the trick of being in part very visible and part hidden.

Cox says: “The kitchen takes up about one quarter of the

ground floor and allows viewing of food preparation, which is part of a key trend of people wanting to see how their food is prepared, but outside there is screening to hide the bin sheds.”

Above this area there is a small green Sedum roof, which helps with rainwater runoff by trapping some of the water for later release. Other catering outlets – a juice bar and various coffee bars – are distributed across the building.

Fusion 1 has three lecture theatres, whose design exploits



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ash cladding with contrasting oak, though only one is likely to be recognisable to those who went to university in decades past. This lecture theatre's traditional design has rows of raked seating, though with large windows to allow for maximum natural light. This contrasts with the other two theatres which are of a horseshoe shape and an 'interactive' design respectively, the latter having a complex internal arrangement of stepped desk areas allowing students to hear a lecturer and then break into groups for study.

Much of the upper floors are otherwise devoted to rooms of varying size which staff or groups of students can book for any academic purpose or just use on an ad hoc basis if vacant. In good weather there is ample balcony space too. The upper floors are accessed by either a staircase or two glass fronted lifts and the whole structure is compliant with the Equality Act 2010 for access. A glass-walled ground floor project office exploits a space adjacent to the campus' main 'street' allowing research in progress to be displayed.

Sustainability was an important feature in the design both because of the university's driver to save on energy costs and because it wanted to make a clear statement of its 'green' commitment as a differentiator to attract students in what is a competitive market.

Cox explains: "We achieved a BREEAM Excellent rating for the design stage, and the construction stage is being assessed. "We thought about going for BREEAM Outstanding but felt the money could be used more cost effectively so we upped the scale of the photovoltaics."

The result is a substantial 200 m² array of photovoltaics covering the roof, which also houses other plant and is not normally accessible. Beneath Fusion 1 nestle 11 ground source heat pumps, driven down to a depth of 100 m.

These pumps have struggled to be widely accepted on new construction projects because of their cost, but the university is a client with the scale to make them affordable and they are a key part of realising its goals of promoting sustainability.

Cox says: "The building uses chilled beams so in winter the ground is warmer than the air outside and the ground source heat pumps provide the base heat, and in the summer the reverse happens so it feeds in cooler air. There is also a gas boiler for additional heating."

Keith Papa notes that even though Fusion 1 has a lot of glazing the fact that it is triple glazed has enabled air leakage to be minimised.

He says: "Bournemouth is in the top 10 for sustainable universities and it is seen as a selling point for students. As a result the university was very enthusiastic about achieving a high level of sustainability in the design."

The cluster of buildings at the Talbot campus makes Fusion 1 hard to see from surrounding roads, but once on university premises it towers, in striking layers of black and white, above everything on the site excepting the recently built student centre.

Bournemouth University has a stream of new buildings coming in future, and despite having been somewhat jumbled in the past, the campus now has a striking focal point.

‘Bournemouth Uni has a stream of new buildings coming and despite having been somewhat jumbled in the past, the campus now has a striking focal point’



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Project details

Client: Bournemouth University
Main contractor: Willmott Dixon
Architect: BDP
Mechanical and electrical installation and design: Mitie Projects
Roof and cladding: Richardson Roofing
Curtain walling: AB Glass
Roof light dome: Novum Structures
Concrete Frame: MJ Gallaghers
Steel frame: Weldrite Structures
Photovoltaics: Photon Energy
External and groundworks: Blanchards Wells
Landscaping: The Landscape Group
Soft flooring: RB Flooring
Painting: SPP Fine Fishes
Ground source heat pumps: Groenholland
Carpentry: WW Builders
Drylining and ceilings: Korbuild

Feature benching: JJ Interiors (South West)
Raised access floor: Bathgare Flooring
Lecture theatre seating: Auditoria
Glazed screens: Lusso Interiors
Zinc cladding: Roles Broderick
Lifts: Orona
Brickwork: GP Masonry
Architectural metalwork: Hi Tec Welding and Fabrication
Revolving doors: Boon Edam
Screed and underfloor heating: Mechserve
Louvres: GDL Air Systems
Steel external doors: Prima Doors
Roller shutter: Avon Doors
Folding wall: Building Additions
Metal decking: Structural Metal Decks
Planning authority: Borough of Poole



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enq. 138

Academy benefits from steel sanitaryware



Franke Sissons were thrilled to supply four Centinel drinking fountains and six stainless steel circular washtroughs to Serlby Park Academy in Doncaster. Rob Bailey from William Bailey, the contractor appointed commented: "We use Franke Sissons products regularly on projects, as we are guaranteed the highest quality, short lead times, and delivery with minimum hassle. The washtroughs were supplied with taps and soap dispensers and delivered fully assembled". Franke Sissons sanitaryware is suitable for commercial washrooms in Schools, Hospitals, Stadiums, Hotels, offices and the Transport sector.

01246 450 255 www.franke.com

enq.139

Floating ceiling adorns Sir Ian Wood building



Hunter Douglas has created an impressive 450sqm circular floating ceiling in the reception area at the Sir Ian Wood Building, part of the £120m Garthdee Campus at Robert Gordon University, Aberdeen. The open linear ceiling in multi-width module American Red Oak provides a natural feel within an ultra-modern building that

is otherwise constructed from glass, hard masonry and cladding. Architects BDP of Glasgow asked Hunter Douglas to provide three widths – 63mm, 90mm and 117mm – to provide depth and visual interest. The panels were finished on three sides with UV resistant varnish and were also treated with Magma fire treatment.

01604 766251 www.hunterdouglas.co.uk

enq.140

Combining natural ventilation with noise attenuation from Passivent SoundScoop®



SoundScoop is a range of innovative acoustic air transfer units from natural ventilation specialists **Passivent**. With an optimised acoustic design for the transfer of air between noisy and noise sensitive places, it provides natural ventilation airflow through a building, combining high levels of acoustic attenuation with very low airflow resistance.

Ideally suited to schools, SoundScoop is positioned at high level in the partition/wall between two internal spaces enabling natural air movement with minimal pressure drop. A patented sound absorbing design attenuates the mid frequency band of 500 – 2000Hz that speech and noise circulation fall into.

Developed in association with Arup, SoundScoop can be used to meet the acoustic and ventilation requirements of BB93 and Building Regulations (Parts F and E).

As James Hammick, Passivent design manager explains: "SoundScoop allows low resistance air movement around the building without the associated noise transmission, enabling natural ventilation to be effective in 'closed plan' environments such as classrooms as well as cellular offices and hotels."

01732 850 770 www.passivent.com

enq.141



Plan.a installed at City of Glasgow College

COBA Flooring's Plan.a aluminium entrance matting has been installed in the main building at City of Glasgow College's stunning new Riverside Campus. The ultra-modern building features an attractive atrium and Plan.a has been installed in its main reception, and in one of the side entrances. Plan.a is a high quality aluminium entrance matting system that is custom-manufactured by COBA Flooring in the UK. Extremely robust, it is ideal for areas subjected to high levels of footfall. The College chose to have its logo incorporated into the design, taking advantage of COBA Flooring's ability to integrate an inlaid custom printed Logomat. With Plan.a, there is a choice of three insert materials: either nylon carpet; needlepunch carpet or PVC scraper inserts. It is available in either low or standard profile height with the option of a 'closed' or 'open' surface finish depending on preference. Plan.a is just one of many BIM listed entrance matting systems available from COBA Flooring.

0116 240 1161 www.cobaflooring.com

enq.142



Door closer assures safer schools

Powermatic controlled, concealed door closers from **Samuel Heath** deliver a host of benefits to the education sector. Meeting all relevant fire performance and accessibility requirements, Powermatic door closers also help to reduce risk in two key areas; vandalism and self-harm. Being totally invisible when the door is closed and having few parts on show, Powermatic is less likely to be vandalised, thereby reducing maintenance costs and, more importantly, reducing the risk of a fire door being rendered ineffective by a damaged door closer. Concealment also helps to reduce the opportunity for self-harm, something that at least one local authority is believed to have recognised by switching to Powermatic. It is these factors that are making Powermatic an ideal choice for professionals responsible for new-build, refurbishment and improvement projects in the education sector.

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Wraptite Tape helps Chester le Street school



Wraptite Tape from A.Proctor Group has proven to be a real winner in combining the essential properties of airtightness and vapour permeability behind rainscreen cladding in the newly refurbished Chester le Street Primary School. Due to the nature of the project being a refurbishment, breathable felt was not suitable for the Vapour Control Layer (VCL) as it would come into direct contact with the rear cladding surface. Wraptite Tape was selected because it is not only an effective airtight barrier, but because its high vapour permeability allows damp sheathing to dry quickly, and moisture vapour to escape. Thus ensuring good indoor air quality and reducing the likelihood of mould, mildew, condensation, timber distortion and metal corrosion.

01250 872261 www.proctorgroup.com

enq.145

Our Lady & St Josephs Catholic School



Comar Architectural Aluminium Systems; with their approved fabricator Veranti Systems completed a new build 2 form entry Catholic Primary School in Poplar, East London. Comar 5P.i. Top/ Side Hung and Fixed Light thermally efficient polyamide insulated windows were specified. These aluminium windows offer outstanding weather performance and reduce heat loss through the trademark P.i thermal break ensuring low U-values so energy bills are minimised. Comar 6 curtain walling is a versatile thermally efficient system designed to integrate panels and glass of different widths into the facade with special profiles to include opening vents and doors. Comar 6 was selected due to its slim 50mm profiles.

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enq.147

Helping breathe new life into Ulster



A Blackpool engineering company is playing a key role in helping transform the centre of Belfast. Gilberts, a leading air movement specialist, has provided natural ventilation for one of the first, and most important, buildings to be completed in the new £250m University of Ulster campus – the

Faculty of Art, Design & the Built Environment. The nine-storey building, features Gilberts' Mistrale WHZ38 louvres to a bespoke design with Gilberts' VN75 air inlet dampers incorporated into the aluminium clad facade. The louvres have been installed to ensure a controlled internal environment in the sky walkway, main communal area, classrooms and lecture theatre.

01253 766911 info@gilbertsblackpool.com

enq.146

KoolDuct stands the test of time



Truly timeless fashion design requires a blend of artistic vision and the highest quality materials. This same approach was fundamental when the Fashion Retail Academy was constructed. To ensure resources could be focused on students, reducing long-term running costs

was important for the architects. The Kingspan KoolDuct System was specified with the VentureClad facing as part of this approach. Unlike the traditional approach to ductwork construction, which requires sections to be lagged with insulation once installed, The Kingspan KoolDuct System panels are pre-insulated with a premium performance insulation core. This single-fix, lightweight design helped to reduce installation time when the campus was constructed.

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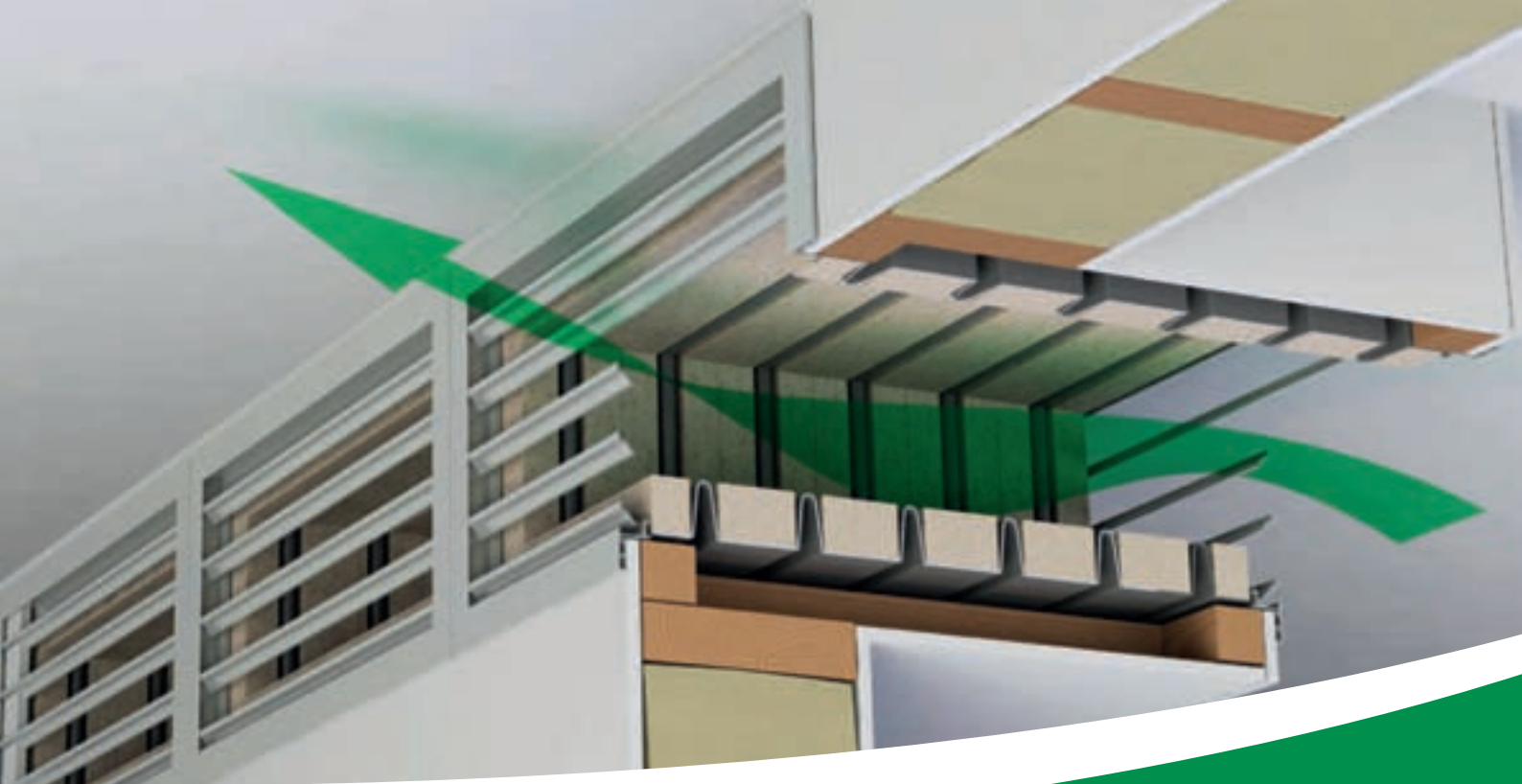
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enq.149

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Yeoman Shield protects 24/7 at North Birmingham Academy

North Birmingham Academy opened the doors of its £23.6 million state of the art facilities in 2013.

Not only does the building cater for the everyday requirements of a school environment for 11-19 year olds but also accommodates out of hours school clubs and activities some, like The Zone sports hall and conference facilities, open to the general public.

"Because of the myriad of uses and the amount of people and equipment that moves around the building almost 24/7, we noticed that very quickly the new walls particularly were getting marked and damaged detracting from the appearance of the Academy.

"Image says a lot to both pupils and visitors about a school and with the amount of money invested into the building we were very keen to find a solution that would halt the damage and help to maintain a pristine and attractive interior. That's when we contacted Yeoman Shield for advice on their wall and door protection products." Explained the premises manager for NBA.

Yeoman Shield's Area Sales Manager undertook a free site survey and furnished North Birmingham Academy with a fully itemised quotation along with samples of the products.

FalmouthEx 2.0mm thick wall protection panels were fitted, by a team of Yeoman Shield's directly employed fixing operatives, at 1250mm high along the busy 1st and 2nd floor corridors. Having to co-ordinate with the contemporary decor scheme already in place Yeoman Shield's new



Aubergine colour proved to be the perfect choice.

The wall of the Academy's frequently used sports changing rooms were also protected with Yeoman Shield FalmouthEx wall panels, this time in a Mushroom colour which while guarding against everyday wear and tear has proved easy to clean.

The busy reception area of The Zone sports hall, which is frequented by students and is also open to the public between 5.00p.m. & 10.00p.m. on an evening and over the weekend, benefited from wall panels fitted around the notice board area in striking Regatta Blue and Mushroom.

"Fitting Yeoman Shield will definitely show a saving on our annual redecoration budgets

which can cost anywhere up to £50.00/m² for the repainting of walls. It will also save staff time who will be able to be re deployed to other important projects helping us get through our workload more efficiently.

"We were thrilled with the service and workmanship from Yeoman Shield and we will be continuing to roll out the wall protection throughout North Birmingham Academy." Concluded the Academy's premises manager.

For more information on cost saving wall & door protection contact Yeoman Shield directly or visit the website.

0113 279 5854 www.yeomanshield.com enq.151



UK's first self-built timber Passivhaus studio



VMZINC® double lock standing seam and flatlock panels in ANTHRA-ZINC® were used in the construction of the Macro Micro Studio at the University of Dundee. The zero-energy prototype was built in the Botanic Gardens by eight Architecture Masters students seeking to achieve 'an off-grid, energy autonomous, Passivhaus'. The sustainable design is the UK's first net-zero energy live/work studio and showcases existing and emerging materials, services and renewables. VMZINC was among a consortia of over 50 manufacturers brought together to provide specialist expertise and materials prior to the building being equipped with instruments to capture data on environmental performance.

01992 822288 www.vMZinc.co.uk

enq.152

Expona Flow flooring adds vibrant touch



Heavy commercial Expona Flow PUR sheet vinyl flooring from Polyflor was recently installed in the School of Life Sciences building at the University of Nottingham to help create a striking break out area for students to relax, work and grab a snack in between lectures. The Expona Flow PUR collection of heterogeneous vinyl flooring features 50 wood, stone and

abstract designs for heavy commercial environments. This durable vinyl floor-covering is also enhanced with PUR, Polyflor's exclusive and robust polyurethane reinforcement which is cross linked and UV cured for polish-free maintenance.

0161 767 1111 www.polyflor.com

enq.153

The Frank Barnes School for the Deaf and Partly Deaf



The Frank Barnes School for the Deaf and Partly Deaf is known internationally as a school of excellence. The school was built to provide a state of the art learning centre, as well as a caring and nurturing atmosphere. Designed by renowned architect, David Morley, this project had specific requirements. A sound reducing design means voices do not get distorted by any muffled noise; therefore sounds are easier to distinguish between direct communication and background noise. Low impact sound was important so that footsteps do not contribute to the sound pressure level. A happy light aesthetic was also a criteria – capitalising on the noraplan® sentica colour options. Effective & efficient maintenance was also very important, offering the nora pad system which uses just water allowed for confident selection of bright colours, knowing the flooring would not be affected by harsh chemicals. The final criteria, a low impact building, here the BRE A+ is important, however, nora® are able to offer Blue Angel Accreditation. This award for low VOC's is important, it provides the peace of mind that the floor covering is positively contributing to the health and wellbeing of the staff and pupils. It is not outgassing and the floor is also stable. For more information on nora flooring systems please visit the website.

01788 513160 www.nora.com/uk

enq.154

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enq.155

From flights and battles in the sky to a peaceful learning environment

Selectaglaze has helped make an old NAAFI base turned independent school, more thermally efficient with the aid of its bespoke secondary glazing.

Yards from where British Hurricanes used to take off during the Battle of Britain, stands Grade II Listed former NAAFI building.

Throughout the Second World War the airfield was used as the front line of national defence and was fully operational up until 1978. Since then the building had fallen into a state of disrepair. Plans were successfully put forward to not only preserve an important part of history, but to renovate the former NAAFI building to become an independent secondary school.

As the building is Listed and of great historical importance, serious consideration had to be given on how to make it a comfortable and peaceful learning environment. The current primary windows could not be replaced, despite being draughty and letting in noise. Unispace Global



consulted Selectaglaze, the specialist in secondary glazing, to provide an unobtrusive solution suitable for the Listed building.

Selectaglaze installed 70 units, using four different product types to match the existing primary window styles and sight lines. On the circular windows, Selectaglaze used the Series 46 fixed unit, with its discreet slim line frame with

neat cover channels that conceal the fixing.

All of Selectaglaze's units are tailor made to ensure the tightest fit and use twin seals to virtually eliminate draughts and reducing heat loss by up to 50 per cent. Secondary glazing can also reduce noise ingress creating a quieter environment and a reduction of 45dB is easily achievable.

Secondary glazing is an independent window fitted to the room side of a building, and as a fully reversible adaptation is accepted by most heritage bodies.

With 50 years' experience and Royal Warrant holders since 2004, Selectaglaze has extensive experience with working on all building types from new-build hotels to Listed offices.

For further details about secondary glazing in practice, difficult treatment examples and Selectaglaze's take on the general construction news stories, please visit 'Spotlight' on the website.

01727 837271 www.selectaglaze.co.uk

enq.156

Jeckells' keeps Icknield pupils in the shade



Jeckells' the Sailmakers has recently installed three tensioned canopies over outside learning areas at Icknield School in Letchworth. Working closely with architects, Wilby & Burnett, Jeckells fabricated the canopies, sourced the stainless steel posts with red post bumpers and organised full installation to fit in with the school's demanding

schedule. Ferrari Soltis 86 premium mesh material was used due to its strength and durability. In recent years Jeckells has built up a reputation for the design and manufacture of quality shade sails with an almost unlimited degree of versatility in design, colour and materials.

01603 782223 www.jeckells.co.uk

enq.157

New Architectural Systems brochure



The new **GDL Architectural Systems** brochure encompasses a vast range of Louvre Systems and Brise Soleil. Our range of louvres offer excellent functionality allowing the necessary aesthetics, ventilation requirements, rain defence and aerodynamic performance. Our products include

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enq.158



Oxford University invisible automatic access

The purpose-built Blavatnik School of Government at Oxford University, recently opened its **TORMAX** automated swing doors to teachers, students and academics, welcoming them into a state-of-the-art facility. Crafted by Birmingham Veneers Ltd, the two impressive wooden and glass entrance doors are automated using two TORMAX iMotion 1401 operators concealed in sealed casings underneath the floor. Ensuring longevity and reliability, even in such a busy location, the iMotion motors, which are uniquely designed with no abrading parts to cause friction wear, dramatically minimises maintenance, allowing them to be neatly located out of sight. Contributing to low environmental impact, two sets of TORMAX powered automatic twin-leaf swing doors create a functional entrance lobby area. Effectively minimising heat-loss from the building, powerful high torque synchronous motors combine with user-friendly keypad controls that allows staff to adjust hold open times and open/closing speeds.

enq.159



Station regeneration lets shoppers take the train to Waitrose

Station redevelopments are offering a new way for major supermarkets to offer customers convenience. Steve Menary reports on a current example which also tackled a sloping site in Haywards Heath, West Sussex.

Trains out of London are stuffed with commuters on their phones, or watching films on their laptops, but what about shopping?

The retail battleground has ebbed and flowed, shifting from the high street to out-of-town then to local hyper stores – and now to the train station.

Major termini like Waterloo and Euston have long since been infiltrated by the smaller convenience versions of the big grocery chains, but most commuters are getting snacks for the

journey home. Few are doing their weekly shop, but that could be all about to change.

“People on trains can click and collect shop on the train, then pick it up when they get off; the concept is perfect,” says Alan Newland, project manager at BAM Construct, which is building a major new Waitrose store in the heart of Sussex commuter-land that is looking to cash in on that concept.

The project is part of a £35m regeneration of Haywards Heath Station Quarter for Solum Regeneration, which is a



‘The practice’s brief from the client was to create a building that the people – and shoppers – of Hayward’s Heath would remember’

partnership between Network Rail and the property division at Kier.

The joint venture was formed in 2008 and has completed projects at Christchurch, Epsom and Walthamstow and has planning permission for further developments at Redhill and Twickenham.

The project in Hayward’s Heath gives Waitrose a major new presence in the town that is not far from a big J Sainsbury store, the crucial difference being that the Waitrose store is almost literally on the platform.

Commuters can get off the train and immediately access the store via lifts or an escalator. These are needed because of the site’s steep six m drop from one end to the other, which

has presented a massive architectural and construction challenge as the plot is at the heart of Hayward’s Heath.

“We had to carve a giant wedge out of the site,” Mr Newland of BAM says.

The firm beat a number of other contractors, including Balfour Beatty and Kier, vying for the project, which has a construction value of £15 million and started on site in March 2015.

The overall scheme also includes provision of a transport hub at the station plus a three level multi-storey dedicated station car park providing over 1,000 spaces.

A new footbridge being built by BAM Construct’s sister company BAM Nuttall will also link the car park with the station platforms and Boltro Road, while the public realm will be enhanced around the station.

At the heart of this regeneration is the 25,000 foot² Waitrose store, which has been designed by the London office of Pozzoni. The practice’s brief from Waitrose was to create a building that the people – and shoppers – of Hayward’s Heath would remember, but this was also influenced by the site.



Clare Cade, a project architect at Pozzoni explains: “They were looking for a landmark building that complemented the existing railway station, and had provision for additional car parking to cope with increased demand at Hayward Heath.

“The form was dictated by the function of supermarket, the sloping site and the position of the site at a prominent junction in town, near to the railway station.

“We utilised the sloping site to create a car park deck over the supermarket, while maintaining ground level access into the supermarket at the lower level.”

The Waitrose store is being sited on what is either the ground or basement level – depending on how you access the site. Before work could begin, nearly 18 months was spent by the architectural and construction team on the 278 section of the planning permission, which related to highways works and was a key part of the design.

Mr Newland explains: “In such a busy section of Hayward’s Heath and West Sussex we had to make sure it worked in every sense.”

The site was a car park and before any work could start,

agreement had to be reached on how new spaces could be created for the swathes of commuters that use the station.

“There had to be around 600 spaces before BAM could move onto site,” Newland says.

A new three-level car park nearby solved this solution, while BAM Construct’s team built a loop road around the site that allowed the bus services to keep running.

BAM Construct’s team then utilised 2,500 lorry movements to excavate 19,000 cubic metres of aggregates out of the site. This has all been used sustainably, mostly to support chicken coops in a nearby poultry farm.

Once this demolition and excavation had been achieved, flight auger piles were sunk into the site and erection of the steel framed buildings began using a mobile crane.

A steel frame was specified and there are 433 tonnes of structural steel in the project, which was supplied and fixed by Leeds-based group Elland. Given the travails of the British steel industry, this specification might have created a problem.

Newland says not, adding: “Despite all the shenanigans



going on in the steel industry, we were told it wouldn't affect our project and that it's British steel. Elland have been very proactive about the issues we've thrown at them."

The architectural stamp created on the project is found in two sections and one of those is very much not British.

The first significant design element utilises the steel – a saw tooth roof design, above the office section of the scheme covering a 60 metre by 10 metre strip of the plot.

"The zigzag roof along Perrymount Road is a reference to traditional warehouse buildings with north lights," adds Ms

Cade of this element of Pozzoni's design.

The practice worked for the client initially on the concept design. Then when BAM Construct won the building contract, Pozzoni was novated onto the construction team.

For much of the facade bricks have been specified and local products have been used. Hand-made Holmbury bricks and the Pevensey multi brick were used throughout the projects on the walls, while a slate roof was specified with composite panel to ensure water-tightness.

Newland says: "The slate is essentially decorative but slates



are supposed to be more in keeping with an older-fashioned street scene to match the Hayward's Heath vernacular."

The second major element of the design is a curtain walling system that has been specified by Pozzoni with a structural glazed curtain-walling exterior to resemble a floating glass box.

Cade explains: "The curtain walling at first floor level is intended to create a kind of "glowing box" at the prominent location by the roundabout on a main junction leading into town."

While the bricks and steel are British, the curtain walling

'The regeneration around the station will benefit all station users and dramatically improve the look and feel of the surrounding area'

Solum Regeneration director Simon Rutter

has an international provenance and it was sourced from Germany but has been commissioned from Latvia.



Skonto Enterprises was set up in 1992 as the first Latvian company, to manufacture glazed aluminium products. This was where the project team turned for the product to create the floating glass box effect.

The German Schüco system was commissioned from the Riga-based firm and will provide the key visual focus for shoppers and travellers, particularly from the main entrance off Perrymount Road.

In addition to the Waitrose store, the scheme also includes smaller A3 and A2 retail units. On top of the actual store will be 60 car parking spaces with a Knight asphalt product specified here. Another 160 car parking spaces will also be provided on a surface level car park on the same plot.

Work started on site in April 2015 with the project due to complete in October 2016 and the store opening before Christmas.

When demolition began last year, Solum Regeneration director Simon Rutter said: "Residents have been waiting for over 30 years for something to happen here and have been hugely supportive of our plans. The regeneration around the station will benefit all station users and dramatically improve the look and feel of the surrounding area."

Pozzoni and BAM Construct will hope that is the case when the store opens at the end of this year as click and

collect becomes an easier option for the commuters of Haywards Heath.

Project details

Project: Haywards Heath Station Regeneration

Location: Haywards Heath, West Sussex

Cost: £15m

Client: Solum

Planning consultant: Savills

Architect: Pozzoni

Project manager: Leslie Clark

Structural engineer: BAM Group

Quantity surveyor: Leslie Clark

Highways engineer: Motion

Mechanical & electrical consultant: URS

Landscape architect: Fabrik

Contractor: BAM Construct

M&E design: Halsion

CDM Co-ordinator: GHPC

BREEAM assessor: Synergy

Roofing contractor: Cobbs & Davis

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Illuminating Home Furnishing Ideas from Rogers of York!



Rogers of York have been a family run business for three generations, 2015 marked 125 years of delivering quality home furnishings. They are proud of their history and the inspiration they give their clients, helping to create the dream home and lifestyle. Luceco, part of Nexus Industries, were delighted to have the opportunity of assisting with their new lighting installation. High efficiency, energy saving LuxPanels from Luceco met the criteria set out by Rogers of York. Quick and easy to install into exposed grid ceilings, the luminaires deliver up to 50,000 hours' life with no maintenance requirements. Modular LED Downlights were also used, offering an alternative to compact fluorescent fittings, with energy savings of up to 80 per cent. The Modular range allows the choice of singular or double frames in circular, square or gimbal formats in white as standard but black and grey as optional. On Rogers of York's web site, one of the first questions posed is What makes a quality furniture showroom? There are many answers including choice of brands, value for money and a layout that's easy to navigate. Well-designed lighting is essential to a well-planned store; Luceco and Keith France Electrical in Selby are pleased to have been part of this successful team.

01952 238100 www.luceco.uk

enq.161

GEZE UK tops the 'shopping list' for Waitrose



Like all new supermarkets, Waitrose's flagship store in Chester required good access. When it came to the automatic doors for the Waitrose building, GEZE UK fitted the bill perfectly. Each of the main entrances feature a pair of bi-parting automatic sliding glass doors

powered by GEZE's Slimdrive SL NT drives. Designed to be virtually silent in operation, the Slimdrive SL NT provides safe and easy access in high traffic areas, making them ideal for Waitrose's busy entrances. Three storeroom doors also have been automated to allow staff easy access when moving stock with GEZE's single TSA 160 NT automatic swing door operators.

01543 443000 www.geze.co.uk

enq.162

Expona flooring adds beauty to skincare



Luxury vinyl tiles from Polyflor's design-led Expona Commercial range were recently chosen to create a sleek, modern look for innovative skincare brand GENEU Ltd's flagship store on New Bond Street, London. Hard wearing Expona Commercial luxury vinyl tiles in the Exposed Concrete design were installed

in the new Mayfair store. The realistic stone effect floor covering was used as part of the store design. Featuring 55 stunning wood, stone and effects design options with surface textures for added authenticity, the Expona Commercial range of on trend luxury vinyl tiles has a 2.5mm gauge and 0.55 wear layer, making it suitable for high traffic, heavy commercial environments such as retail interiors.

0161 767 1111 www.polyflor.com

enq.163

What a load of Bollards!

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SE Controls helps keep 'Dragon's fire' under control

Dragon Mart 2, the recently completed 175,000 sq metre extension to Dubai's massive Dragon Mart Chinese trading hub, is using control solutions and more than 1,100 actuators from SE Controls as part of the fire safety and smoke ventilation system at the 1.2 kilometre long retail centre.

Designed by Dubai-based, Dar Al Handasah, the two-storey Dragon Mart 2 mall forms part of the International City development by master developers, Nakheel, and in addition to being the largest trading hub for Chinese products outside mainland China, housing more than 1,100 shops, it also includes a nine-screen cinema complex, two hotels and 1,120 apartments.

Throughout the mall, a series of openable skylight panels not only provide natural light into the shopping area, but also act as smoke vents to keep escape route clear of smoke should a fire occur.

The SE Controls' system includes; 1160 TGLA



24 65 linear actuators, which are used to open the skylight panels and 24 SECO N 24 40 chain actuators for opening vertical top hung windows, which are triggered by 44 OS2 30A controllers once they receive a signal from the mall's fire alarm system.

In normal operation the skylights remain closed until triggered and are then opened fully by the TGLA and SECO N 24 40 actuators, which have stroke lengths of 1000mm and 600mm respectively. Both types of actuator are 24 Volt DC units and are tested to EN12101-2. The fan cooled OS2 30 controllers also incorporate a battery backup to maintain operation in the event of a mains power failure.

SE Controls' Middle East Project Manager, Madhava Prasad, commented: "We have a tremendous amount of experience and expertise in retail smoke control and natural ventilation solutions in projects across the globe, so we can use this ability to support designers, fire consultants and engineers and ensure the systems are effective and help save lives by keeping escape routes clear of smoke."

01543 443060 www.secontrols.com

enq.165

The roofers best kept secret



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in slate grey colour in 7kg and 21kg tins, Liquid Roof will leave you with a professional looking, fully waterproof roof in just five easy steps.

0113 240 2424 www.everbuild.co.uk

enq.166

Polyflor's Expona flooring looks a treat



High design and high performance flooring from Polyflor, a UK commercial and residential vinyl flooring specialist, was recently used to give Barbakan Delicatessen in Chorlton, Manchester a makeover as part of their refurbishment project. Polyflor's hardwearing Expona Commercial PUR luxury vinyl tiles were installed by Salford based Newards Ltd

flooring contractors to the shop floor area. With a 2.5mm gauge and 0.55 wear layer, the Expona Commercial range features a total of 55 stunning effect designs. This product's robust polyurethane reinforcement (PUR) is cross linked and UV cured to provide superior cleaning benefits and a simple maintenance regime.

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enq.170

Sensible solutions for opening buildings up to the sky

Demand for buildings that offer 'outdoor' space has never been higher, especially in inner city environments with tight footprints. Mark Harris, head of technical and operational services at Radmat, explores some fit-for-purpose roofing solutions.



Tropical roof gardens designed by Foster + Partners at Crossrail Place, Canary Wharf with a timber lattice roof and waterproofing by Radmat

In response to strong demand from clients, developers are increasingly asking architects to integrate outdoor space within their designs, facilitating the creation of high-profile spaces such as the publicly accessible 'Sky Garden' in the Walkie Talkie building, the stunning public park at Crossrail Place railway terminal in Canary Wharf, and traditional balconied residential apartments such as those in the Chelsea Creek development among many others.

Whether an accessible green roof, hard landscaped podium or an internal balcony these applications all pose the same construction problems: how to waterproof them, how to insulate them, how to meet access regulations, and how to build them with minimal risk from other trade activities.

Whenever a roof is subject to regular access the simplest solution to all of these challenges is typically to specify an inverted roof construction, also referred to as a protected roof. This is a form of warm roof construction in which the insulation is placed above the waterproof layer with ballast, paving, timber decking or a green roof used to hold the insulation in place.

In inverted roof construction the waterproof layer also acts as a vapour barrier, eliminating the risk of condensation within the roof construction. The insulation has the added benefit of protecting the waterproofed surface from impact damage and the elements. Whether gravel ballast, paving, timber decking or a green roof the upper finish layer further protects

The Sky Garden at 20 Fenchurch St in the City of London, designed by architect Rafael Viñoly



the insulation and waterproofing membrane beneath. Unlike dark-coloured roof finishes the surface materials also contribute to reducing the urban heat island affect, making a positive contribution to a city's, and the world's, climate.

The limitation in application tends to be the structural load of the system; a loading of 80 kg/m² is typically required to retain the insulation on the roof. However, with most inner city developments being concrete frame this is less of a concern.

From a construction perspective inverted roofs can offer significant programme benefits, for example systems certified for zero falls installation can remove the time and cost of adding screed to falls.

Standards and technical requirements

BS6229:2003 is the Building Regulation covering falls on flat roofs, and specifies minimum finished falls of 1 in 80, achieved by designing to 1 in 40. But 2003 was a while ago, and 2016 BS6229 will be updated to include zero falls applications as defined by ETAG 031, ETAG 005 and British Board of Agrément in Building Bulletin 4.

ETAG 031 is a European Guideline published in 2010 that sets the requirements for the certification of zero falls design and calculation; BBA Building Bulletin 4 is a précis of the requirements. Both these documents are recognised by the NHBC and zero falls construction is accepted in its Chapter 7.1 standards publication, updated in November 2015. Reference to zero falls application also appears in the LRWA Hot Melt Code of Practice and the GRO Green Roof Code.

When checking the suitability of a roof for zero falls application it is important to ensure the manufacturer assesses

the deflection plan for the deck to identify any low points that are not near rainwater outlets. If the outlets cannot be moved to areas of high deflection then other options should be explored with the manufacturer to ensure effective dispersal.

Once the zero falls design of the concrete slab has been signed off, the next consideration is compliance with Parts L and M. Insulation has traditionally been thicker with inverted roofs than with warm roofs but as U-value requirements tighten higher performance has been achieved with less thickness.



Pictured far right: Chelsea Creek, a prestigious new development by St George in south west London

Landmark Byker Wall estate recharged by solar

Constructed in the 1970's Byker Wall is regarded as one of the most significant pieces of architecture of its era in the UK. As part of a £26 million refurbishment scheme on the Grade II listed residential estate, which features a continuous block of over 600 properties, work was performed to not only repair the existing roof but to bring Byker Wall to the forefront of modern-day roofing technology with the installation of a state-of-the-art photovoltaic (PV) system.

Prior to undertaking any remedial work the project team had to first get permission from the local planning authority, due to the building's protected status. Once approved the first phase of work began to remove the original asphalt roofing, which had exceeded its serviceable life and been experiencing water ingress. As part of the required works the team had to convert the pitched metal roof back to its original flat roof status. All of the original waterproofing was replaced with 4,500m² of Bauder's top quality reinforced bitumen system,



BTRS, which has a life expectancy in excess of 40 years, and included a highly efficient 120mm PIR insulation to achieve the required U-value and satisfy building regulations.

One of the major challenges for this project resulted from the district heating pipe, which runs the

entire length of the roof but its exact path was unknown until the roof was removed. This meant that many design revisions were necessary for the PV layout and because the pipe penetrates the roof, the roofing contractor had to come up with innovative ways to temporarily support the pipe during the waterproofing installation. In addition, all residents remained in-situ throughout causing logistical challenges, however deliveries were timed as not to conflict with vehicles moving in and out of the facility and the team worked closely with residents to agree working hours. Creating sustainable employment was another important requirement of the project brief. In response, Hodgson Sayers created an apprenticeship programme that used Byker Wall as a starting point for employment, guaranteeing full time work at the end of the apprenticeship. As a result, four new recruits were accepted on to apprentice schemes.

01473 257671 www.bauder.co.uk

enq.172

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Shanghai Art & Design Exhibition



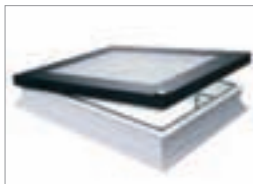
Wraprite-SA airtight membrane from **A.Proctor Group** has been selected by RIBA award winning development pioneers ZEDfactory in an innovative solution to deliver zero carbon housing to China. The ZED Pod home has been built as part of the Shanghai Art & Design Exhibition. Wraprite-SA, self-adhering vapour permeable air barrier was

installed as part of the panel construction of the home. The use of Wraprite-SA in the construction makes a significant contribution to a building's thermal performance by preventing air leakage. It also provides high vapour permeability in a continuously sealed, self-adhered, airtight membrane.

01250 872261 www.proctorgroup.com/air-barriers

enq.174

FAKRO scoops international design award



FAKRO has been awarded a 2016 Red Dot Design Award for its DEF DU6 flat roof window. The yearly awards have been given since 1955 by Design Zentrum of Essen and are considered by many to be the 'Oscars of Industrial Design'. 2016 saw a record 5214 entries from 57 countries. The award reflects

FAKRO's long track record of innovation by a team of more than 100 engineers, the DEF epitomising the very latest in contemporary design. Its high performance glazing unit, thermal performance and advanced automatic control have already helped transform flat roofed building interiors throughout the world.

01283 554755 www.fakro.co.uk

enq.176



Smooth finish for professionals

Leading construction connector manufacturer **Simpson Strong-Tie** has launched a new catalogue dedicated to its range of bead and mesh products for the professional plasterer. Covering a high quality range of galvanised, stainless steel and PVCu products, and fully tested CE marked items, the catalogue also features handy hints and tips for fixings and installation, for a smooth and professional finish whatever the environment.

Sales Director Jon Head says "Our new beads and mesh catalogue has been created exclusively to provide professional plasterers with suitable solutions for all indoor and outdoor applications and to provide advice on how to prevent issues such as premature rusting."

The catalogue is available on request from Simpson Strong-Tie and can be downloaded via the website.

01827 255600 www.strongtie.co.uk

enq.178

Four ways to create attractive brick soffits



A new 8-page brochure and online animation from brick support specialist, **Ancon**, shows just how simple it is to create suspended masonry soffits on virtually any brick building, regardless of soffit dimensions, brick type or bond pattern. An increasingly popular design choice for architects, deep brick-faced reveals and soffits add extra

depth to a building facade, maintaining the colour and texture of the main brick facade typically above door and window openings. Key to achieving this aesthetic is the design of the supporting steelwork which is hidden from view and this is where Ancon's expertise comes in. Ancon provides four effective, yet distinctly different, soffit suspension solutions, all covered in a new technical brochure.

0114 275 5224 www.ancon.co.uk/nexus

enq.175

New roofs at Bournemouth Oceanarium



A recent project to provide 250m² of roofing for the £1.5million extension to Bournemouth Oceanarium was a new departure for **IKO Polymeric** and Excel Roofing Services. The centrepiece of the extension is the new Penguin Beach Encounter, housing 10 Humboldt Penguins.

Five years in the planning, this is the biggest project the attraction has undergone increasing the size of the aquarium by a third. IKO Polymeric's expertise helped solve the problem of securing the netting, originally specified to be done with eye bolts which proved impractical. Instead the netting was secured with welded on membrane straps. IKO Polymeric was recommended, and was used to seal existing GRP trims and the weather exposed steel frame which supports the netting.

01257 256 097 www.ikopolymeric.com/pvc-membranes

enq.177

Saint-Gobain PAM UK extends Vortx range



Saint Gobain PAM UK has extended its range of cast iron Vortx roof outlets to include two-way outlets suitable for parapet wall applications. The new range of two-way outlets has a cast iron body with a 100mm BSP

threaded joint and a stainless steel angled, boxed or flat grating design. A spigot adaptor allows the outlet to be attached to either a 50mm, 75mm or 100mm spigot. Mike Rawlings, marketing manager for Saint-Gobain PAM, says: "With an epoxy coated cast iron body and stainless steel grate, these new outlets provide a hard wearing and anticorrosive finish for a long life. In common with other Vortx roof outlets, the new range has been flow tested and will connect to most drainage systems on the market."

enq.179

Norbord highlights 'legendary performance'



Norbord is launching a drive to promote its CaberWood range of Medium Density Fibreboard (MDF) – one of the most versatile modern building materials. Norbord can boast one of the widest ranges of MDF products currently available. Five grades are available from the basic lightweight general purpose grade

(CaberWood MDF Trade) to the top-of-the-range CaberWood MDF Industrial, a hard-working, deep routing, moisture-resistant product with uniform density all the way through the board. The CaberWood MDF range offer unbeatable quality and 'legendary' performance. To raise awareness of these superior products, Norbord is embarking on a promotional campaign.

enq.180

Kemper System answers towering challenge in New York

Kemper System's Kemperol 2K-PUR cold liquid applied membrane has been used as the waterproofing system for the tallest building in the Western hemisphere: the 1,776ft One World Trade Centre in New York.

Rising to 104 storeys and constructed in a \$3.9bn project lasting more than a decade, the One World Trade Centre, also known as the "Freedom Tower" is the centrepiece of the re-built World Trade Centre complex constructed on the site of ground zero.

The 1800m² roof is not only extremely high, but also features extensive exposed steel details and up to 400 penetrations, including the spire, with no area larger than 10ft x 10ft without some form of penetration; all of which had to be sealed effectively using a system that could be applied by a small team, with restricted access and without the use of hot works or heavy equipment.

Kemper System's Kemperol 2K-PUR

liquid-applied resin membrane was specified for the main roof and the louvre areas on lower floors. The penetrations, drains, curbs and perimeters were all protected and then overlapped by the membrane in the larger expanse to provide a seamless, durable and reinforced waterproofing membrane across the entire roof. As the cold-applied resin bonds directly to the substrate it is particularly effective in coping with wind-uplift which was a major consideration for the chosen system.

In line with US Building Code requirements, the system was completed with a white reflective coating to reduce the urban heat island effect.

Kemperol 2K-PUR resin system is 80 per cent from renewable materials, which fit with the overall design goals for the project. Nearly 75 per cent of 1 WTC is made from recycled or eco-friendly building materials, and the building's green design earned LEED Gold Certification.



01925 445532 www.kempersystem.co.uk

enq.181



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enq.183

Solving the lead roofing problem

The theft of lead from roofs and other structures is a growing threat to the heritage of the UK's historic and public buildings. This has been compounded over recent years by widespread cuts in public funding and the increasing desire to ensure that solutions are sustainable and environmentally friendly.

Most proposed solutions are expensive and even unsightly: increasing general security, using anti vandal paint, or spraying the area with a traceable solution. Some local authority schemes attempt to tackle the problem after the theft has occurred, by targeting the sale of stolen materials.

The only true solution to this problem is the replacement of lead with another material that is much less likely to be subject to criminal damage or theft. Unfortunately, many roofing systems fall short of the mark in terms of either appearance or performance. There is one though that meets most, if not all, of the criteria: Topseal's GRP (Glass Reinforced Plastic) roofing system.

Will the material perform well in the long-term?

Can it cope with complex detail work? Can it be repaired easily? These considerations are relevant to any specification or replacement of lead where aesthetics and performance are paramount considerations and, for GRP, the answer is yes.

This increasingly popular system could spell the end to the general reluctance of many local authorities to replace lead with any modern material, and an end to the expense and security headaches that come with a lead roof.

To suit the requirement for like-for-like aesthetic replacement of lead, Topseal has developed a GRP based simulated lead system that looks authentic and can be specified to complement the colour of existing lead work complete with (seamless) rolled joint detailing.

The Topseal system is particularly well suited to complicated detail work and can encapsulate or incorporate the trickiest features without joints.

The versatility of the Topseal system ensures that it will fit into almost any style from traditional listed structures to public buildings and schools.



It has been successfully installed on these types of projects previously and now meets the needs for a modern alternative to lead.

Topseal is a BBA certified GRP roofing system with a materials and workmanship guarantee for up to 40 years. The system has been safely installed onto millions of square metres of roofs around the UK by Topseal's national network of approved installers since 1992.

08000 831 094 www.topseal.co.uk

enq.184

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An ever increasing program of investment, innovation and product development ensures IG Doors' continued reputation as market leaders with a commitment to provide a product and service that is truly designed to perform.

These products provide the combined thermal insulation and minimal maintenance characteristics that are demanded by both major housebuilders and regional developers. Included in this portfolio is an extensive range of products that comply with PAS 24, Secured by Design, and fire rated doorsets.



01633 486 860 www.igdoors.co.uk



enq.185

New improvements for Reynaers' stylish Hi-Finity door system

Leading provider of aluminium architectural glazing systems Reynaers has further enhanced its highly successful slimline sliding door Hi-Finity – making it one of the best available on the market.

The new features mean that architects can benefit from a huge increase in glass surface, with maximum transparency and minimal sight lines. The latest version of the Hi-Finity system means that there can now be fixed panels of glass up to 1200kg and motorised vents up to 750kg. Where thermal performance is key, even larger triple glass units can be accommodated.

Reynaers' Marketing Manager Rebecca Cope said: "The architectural trend of huge dimensions together with triple glazing has led to very heavy vent weights. For improved ease of operation for the end user, we've developed a new solid and fully concealed motor for Hi-Finity, in combination with a secure, automatic spring loaded pen lock."

Architect: Crahay & Jamaigne Architectes
Photo: Samuel Defourny



With a minimised visible frame of just 35mm for a maximised panoramic view, the Reynaers Hi-Finity slim frame doors offer the ultimate in contemporary design and cutting-edge performance and allow a vent height of up to 3.5 metres. The new system also means that homeowners can now link their Hi-Finity door to their home automation system.

Elegant Hi-Finity aluminium doors are available with double and triple glazing and ensure optimum performance, safety, and comfort. What's more, the improved Hi-Finity sliding system with triple glazing has achieved the Minergie® sustainability label – a quality indicator for high insulation systems. The Minergie® component label for windows and doors requires a minimum level of performance and ensures that the building components contribute to low energy consumption buildings. It is now also possible to combine two Hi-Finity doors on adjoining walls using one of a new range of innovative corner solutions. They allow architects to create a wall of glass to let panoramic views flood into homes and – thanks to the unique design of the multi-wheel carriages – even the heaviest of these doors will glide open and closed with minimal effort.

0121 421 1999 www.reynaers.co.uk

enq.186



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Choosing the right doors for your building project

David O'Mara at leading door manufacturer Hörmann offers his advice on what to look out for when specifying a high-performance external door as well as giving guidance on what style is likely to best suit the space available.



When taking on a house-building project, the garage and entrance doors may only seem a relatively minor element. However, with such a wide range of styles available and the potential to add value to the project both in terms of appearance and functionality, they should be carefully considered during the initial planning stage.

Insulation, security and style are the three main elements to take into account when choosing a door. A good UD-value (the U-value of a fitted door) can significantly improve the thermal efficiency of the entire property and is an absolute necessity for low carbon projects. This is affected predominantly by the material the door is made from but there are many other elements that can help improve overall insulation.

Where energy efficiency is a high priority, metal doors such as steel and aluminium offer some of the best insulating properties, capable of reaching UD-values as low as 0.47 W/(m².K). Improved efficiency can be achieved through a number of carefully designed-in features. For example, a wider

door leaf, in particular those with a form of insulating infill such as PU rigid foam, will help to keep energy costs down. A reinforced composite leaf profile, creating a thermal break, will also help to achieve better U-values.

Likewise, high-security features, such as multi-point locking, can really add to the value of a house as well as offering peace of mind to the future owners. Look out for doors that have been allocated Secured by Design accreditation; having passed stringent tests set by the Association of Chief Police Officers, doors with this status are among the most secure on the market.

Having glazing incorporated into the door's design also does not have to come at the expense of high quality insulation and security. Doors are now available with glass incorporated on the interior and exterior of insulated glazed panels. In the instance of breakage, the glass splinters are bound and stay adhered to the plastic film on the inside, making it virtually impossible for burglars to reach through.

'In the instance of breakage, the glass splinters are bound and stay adhered to the plastic film on the inside, making it virtually impossible for burglars to reach through'



Although insulation and security are important factors in any door, the size and shape of the opening as well as the space available need to be taken into consideration, particularly with garage doors. While the traditional up-and-over style is a cost-effective option, it does require significant space in front of the door to open, and on the ceiling of the garage if a retractable option is selected.

If space is scarce or the driveway is short, a roller door might be more suitable. These doors open vertically to roll round a central drum and require no overhead or wall tracks. However, due to its design, finishes and style options can often be limited.

For unusual shaped openings, such as an arch, sectional doors provide a practical solution. Fitted behind the opening they work with any shape entrance and can provide a stylish finish to a garage's facade. As sectional doors slide into tracks on the ceiling of the garage, headroom will need to be considered. These doors are also ideal for integral garages where insulation is essential. The better designs come with seals around all four sides of the door to help achieve low U-values, while insulated panels also add to overall strength and rigidity.

For a style statement, side-sliding doors offer a good alternative to the traditional sectional style. These recess into tracks along the garage wall so are ideal if headroom is limited.

Most sectional designs offer a range of decorative options, including windows, frosted glass elements and textured surface finishes, all of which can add to the door's visual appeal. If aesthetics are particularly important, you may wish to consider matching garage and entrance doors. Some manufacturers offer entrance door ranges specifically designed to complement their garage doors.

With so many doors available on the market, it's important to be able to differentiate between the various designs and understand which is most suitable for your fitting situation. A high-quality door that has been carefully selected will not only add to a property's appeal but also stand the test of time.



enq.189



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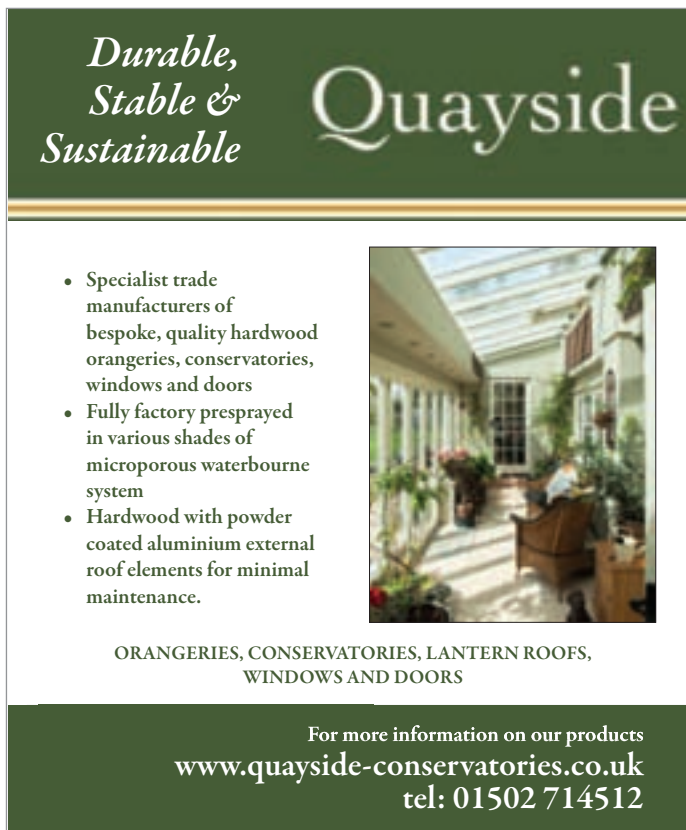
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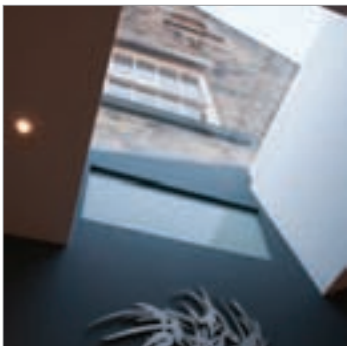
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enq.193

Specifying rooflights to meet the requirements of Part Q



Recent changes to Building Regulations Approved Document Q: Security in Dwellings means that anyone wishing to install rooflights in 'easily accessible areas' will need to ensure that they specify a product which is compliant with Part Q. The document explains 'easily accessible' as "A window or doorway, any part of which is within 2m vertically of an accessible level surface such as ground or basement level, or an access balcony, or A window within 2m vertically of a flat or sloping roof (with a pitch of less than 30 degrees) that is within 3.5m of ground level". These changes are most likely to affect domestic dwellings with flat roof single storey extensions featuring rooflights that fall within the criteria, although each project should be dealt with on a case-by-case basis. **Glazing Vision's** Secure and Secure+ rooflights have been tested to the latest LPS 2081:1 2015 standard, which is designed to replicate a typical stealth attack commonly carried out in residential areas. The range is accredited by the Loss Prevention Certification Board issued by the BRE. Secure and Secure+ rooflights are the first in the UK to be backed by the official police security initiative Secured by Design to LPS2081:1 2015. Rooflights designated with the 'Secure' rating have been tested to LPS2081 security rating A.

01379 353 741 www.glazing-vision.co.uk

enq.194



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Clearly impeccable hospitality



Newcastle's multi-million pound Crowne Plaza Hotel, designed by Space Architects achieves its 21st century look with due respect to its historic Tyneside site using architectural aluminium glazing systems from Metal Technology. The glazed facade and striking, seven-storey atrium were constructed using Metal Technology's System 17

capped high rise curtain walling, bringing lead architect Andy Roberts' vision to life in terms of both aesthetic and performance. Complying with the latest British Standards, System 17 provides structural integrity, weather performance, thermal enhancement and complete design versatility.

028 9448 7777 www.metaltechnology.com

enq.197

Schueco's outward-opening window



Schueco UK Ltd, a UK market leader in sustainable building envelopes, reports that its AWS 70 SC outward-opening window system is proving extremely popular for projects in both domestic and commercial markets. Launched just two years ago, the AWS 70 SC window delivers Schueco 'build quality' at an economical price, a performance/price combination that has won the approval of architects and

contractors right across the country. With a depth of 70 mm, slim sightlines from 63.5 mm (outer frame/vent) and a choice of five vent profiles offering optimum cost/size/weight options, Schueco AWS 70 SC is ideal for punched openings, ribbon windows and curtain walling.

01908 282111 www.schueco.co.uk

enq.198



Nationwide makes Step change for charity

Leading public sector and new build door and window supplier Nationwide Windows & Doors is extremely proud to have been involved in the renovation work at specialist centre for children with motor disorders, Steps – work which has now been completed, to the benefit of both children and staff. Nationwide's journey with Steps began last year at the inaugural BCEMA Awards – hosted by Efficiency East Midlands (EEM) – where the company revealed its intention to supply and fit new windows worth £10,000. The old, single glazed, steel frame windows have now been completely replaced with fully efficient double glazed PVC-U models, with work completing just after Christmas, in time for a celebratory party, featuring children's favourite, Mr Tumble. Adrian Pavey, Commercial Director at Nationwide Windows concludes: "It's well documented that old windows can have a detrimental effect on the health and wellbeing of a building's occupants, even down to how they feel about themselves, so it was an easy decision to do our bit to help this remarkable local charity."

01788 569 228 www.nationwidewindows.co.uk

enq.199





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enq.200

Style and function for hotel projects



Crittall Windows, in partnership with Firmdale Hotels, has produced a striking new brochure to illustrate the upmarket projects that can be achieved using high quality steel windows, screens and doors. The glossy 18-page 'coffee table' brochure presents 'rooms with a view', a collection of dynamic colour photos taken from Firmdale's hotel portfolio. Crittall windows combine the elegance of slim-frame design with the

strength of steel to deliver maximum unobscured views and uses slender steel profiles to create 'screens' which can add an element of definition to open-plan spaces, or to create a threshold between rooms.

01376 530 800 www.crittall-windows.co.uk

enq.201

CMS helps Fife Council hit housing milestone



Scottish designer, manufacturer and installer of high performance windows and doors, CMS window systems, has helped Fife Council hit a significant milestone in its Affordable Housing Programme with their collaboration to deliver windows and doors for 31 new

build homes in Orebank Terrace, Thornton. Working in partnership with local architect firm Sinclair Watts, CMS's wealth of experience saw them awarded the contract for the manufacture and installation of A-rated PVCu windows plus supply and fit high-performance composite doors. CMS's decade of experience in delivering public sector glazing projects involving windows which offer low U-values and high energy efficiency made it the ideal firm to take on the project.

01324 841398 www.cmswindows.com

enq.202

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EN1154:2006

enq.204

GEZE UK launches a tiny powerhouse



It may be small but it packs a punch! The launch of GEZE's new sliding door system is a real David and Goliath affair. The Levolan 120 belies its modest appearance – the slimline fitting can effortlessly move internal doors of up to 120kg with elegant ease. It has twice the load-bearing capacity of its "little brother", the Levolan 60

which won the Plus X Award and was named the Best Product of 2014, in its category. The Levolan 120 shares its discreet aesthetic: with straight lines and modular composition, it's a system which is highly adaptable. Its sleek track, which is only 50mm high, includes integrated derailing protection and can be conveniently installed from the front.

enq.205

GEZE UK creates uplifting entrance



The Wing, an eye-catching building designed to echo the shape and uplift of a Spitfire's wings, features an expansive curved glass viewing platform on the first floor. So, it naturally needed an entrance that would reflect the style of the building and GEZE UK, renowned for its curved automatic sliding door systems, was top of the list. To echo the

lines of the viewing platform, GEZE installed two of its popular Slimdrive SCR all-glass circular lobbies to create two impressive entrances to the Wing. Each circular lobby features automatic bi-parting curved sliding glass doors to create an accessible, draught-free entrance, making them ideal for high levels of footfall.

01543 443000 www.geze.co.uk

enq.207

Traditional timber windows and doors



The Sash Window Workshop offer a range of window and door services including: new timber windows and doors; new sashes into existing frames; draught sealing and refurbishment; secondary glazing; Bi-Glass – a re-glazing and double glazing service; and minor repairs. Their new joinery is manufactured from their workshops in Berkshire, which you can

visit by prior appointment. The company have worked on a wide range of period properties, including: Buckingham Palace; The Royal Academy of Music; and the Oxford Wildlife Trust.

enq.209

BLM British Lead launches new website



BLM British Lead (BLM) are inviting visitors to explore their new website. The new website has been designed with a fresh new look and user-friendly navigation, allowing visitors to access extensive product and technical support information with an option to share content across all major social network platforms. The new site

offers detailed information on Rolled Lead Sheet and a full range of Lead ancillary products, all incorporated to help visitors discover BLM's complete range of lead roofing solutions. The new website also allows users to learn more about BLM's history and 84 years of experience in Lead Sheet manufacturing. Technical support, fitting guides, H&S tips and project case studies are also available.

01707 324595 www.britishlead.co.uk

enq.206

D R Services shines with new website



D R Services, a specialist in innovative glass structures and fittings, has launched a new website. Creating beautiful glass fixtures to transform any room, be it a glass balustrade or a sleek glass shower, D R Services can create glass-based structures and fittings for

the commercial, retail and residential environments. The new website is full of information and images on every aspect of D R Services, from consultation and advice right through to design and structure. From the D R Privacy Glass system to large scale glazing, the new website allows the customer to view the extensive portfolio and a list of testimonials.

enq.208

CMS secures Scottish exclusivity



A leading window, door and curtain walling designer, manufacturer and installer CMS Window Systems has partnered with Synseal to become Scotland's exclusive commercial fabricator for the newly launched WarmCore window system. Building on the success of WarmCore bi-fold doors,

which CMS added to its portfolio 16 months ago, the new WarmCore window system is the ideal complement to its range as it continues to increase its market share in the aluminium, PVCu and timber composite window, door and curtain walling markets. The deal means customers will benefit from a consistently high quality product manufactured by CMS.

01324 841398 www.cmswindows.com

enq.210

UK Roofing Awards 2016 – Winners revealed



The winners of the UK Roofing Awards were announced at a ceremony hosted by BBC's Steph McGovern at the Hilton London Metropole on Friday 13 May. The UK Roofing Awards also reward the individuals and organisations that go above and beyond the call of duty. To see this year's list of winners and finalist please visit the NFRC website. The Roofing Awards bring everyone within the industry together. Along with NFRC, the awards hosts were the Roof Tile Association (RTA), the Liquid Roofing and Waterproofing Association (LRWA), the Lead Contractors Association (LCA), the Lead Sheet Association (LSA), the Federation of Traditional Metal Roofing Contractors (FTMRC), Single Ply Roofing Association (SPRA), the Metal Cladding and Roofing Manufacturers Association (MCRMA), CompetentRoofers, and the Green Roof Centre. Key partners were B&CE Benefit Schemes and The People's Pension, CITB, Electrical Contractors Insurance Company (ECIC) and Quality Assured National Warranties (QANW). Of course the awards would not take place without the continued support by the sponsors, in particular SIG Roofing who also assists in the continued development of the event. To all the sponsors the NFRC thank them for their continued contributions.

0207 638 7663 www.roofingawards.co.uk

enq.211

Light Transmission – 5 factors you should consider

John Godley, technical manager for Hambleside Danelaw discusses the important factors to consider for an effective daylighting plan.

Rooflights can provide up to three times more light than vertical glazing, and can provide more even and useable distribution of natural light into a building, particularly in large structures where light is required deep into the building or in enclosed areas that cannot be lit through an external wall. But it isn't just as simple as installing some rooflights and the job is done. There are some important factors to consider for an effective daylighting plan.

1. Direct Light vs Diffused Light

Direct light – Light that enters a building through transparent materials, such as glass and polycarbonate, provides a strong and direct light path that can create high localised levels of illumination and provide clear vision to the outside of the building, but in periods of strong sunlight it can create strong contrasts between light and dark, producing undesirable shadows and glare.

Diffused light – Light 'spreads out' as it passes through translucent diffusing materials such as GRP. This makes more efficient use of the available light by spreading it over a far greater area, significantly reducing the difference between light and shade, minimising shadows thereby creating a more consistently, evenly lit space.



2. Levels of light transmission

Different rooflight and insulant materials provide very different levels of light transmission, and it is important that all elements of the rooflight assembly are taken into consideration, particularly with 'multiple layer' rooflights for improved insulation. Even transparent elements like glass or polycarbonate can suffer from significant reflectance light losses.

Remember the problems with the 'Walkie Talkie' building in London? The more 'plane elements' in a rooflight assembly, no matter how transparent that element, the greater this reflectance loss can be. So, whilst multi-walled polycarbonate insulation will improve the thermal performance of a rooflight, it will also reflect away more of the daylight, reducing the effectiveness of that rooflight.

Critically, many building owners ignore the financial value of scheduled maintenance cleaning the rooflights regularly will ensure that dirt retention does not reduce light transmission. Too many people grasp the importance of this simple rule too late.

3. Intended building use

Where possible, designers need to consider the intended building use and possible future changes to the use or internal layout of the building.

The following table provides minimum recommended levels:

Activity	Recommended Minimum	Typical Building Type
Continuously occupied with visual tasks but not requiring perception of detail	200	General warehousing and storage facilities, reception areas
Moderately difficult visual tasks	300	General retail and manufacturing areas
Difficult visual tasks requiring accurate colour judgement or perception of movement	1000	Clothing and furniture retailing, sports halls
Precise detailed work requiring accurate perception of intricate detail	2000	Engineering facilities, craft and design studios (good background plus specialist task lighting)

Windows and wall lights become ineffective at distances over 6m into the building and daylighting through rooflights becomes the most effective method. When they're combined with an efficient automated light control system, those efficiencies can be optimised for the best possible lighting energy consumption reductions and the savings that go with them.

4. Energy Saving

In newer buildings, excellent thermal performance is now being achieved. This means that some of the most significant savings in operational energy can be gained by using the free resource of natural daylight. Anything that minimises the need to switch on internal artificial lighting, however efficient that internal lighting may be, can only be a good thing.

In newer, well insulated buildings, the lighting cost per unit can be as much as FOUR TIMES the heating cost losses, making free, natural daylighting a simple, cost effective way to save on fossil fuel usage and building running costs.

5. G-Value (Solar Gain)

But this is not to say that the ideal scenario is to simply bring as much daylight into the building as possible. There has to be a limit. For any building, there is an optimum light level which will give optimum energy savings and daylighting benefits. This formed part of a study conducted by DeMontfort University, which concluded that the optimum rooflight percentage can typically be as much as 18% – 20%.

Beyond that point, the heat – or total solar gain – which naturally accompanies daylight into a building can begin to create overheating problems without an adequate ventilation strategy. This is a key reason for the need to understand the relationship between Light Transmission and g-value.

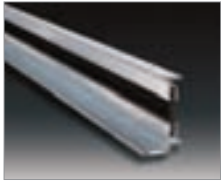
Building designers often specify a rooflight with a high light transmission, but with a low g-value, not realising that the two are inextricably linked. It is not possible, at least with standard Polycarbonate or GRP rooflights, to have high light transmission with low g-value, since the majority of transmitted heat is mainly at the visible range of the solar spectrum.



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

enq.212

W50Therm – a break for steel windows



As insulation standards get even higher, attention is concentrated on areas of the structure that are relatively colder. Modern double-glazed steel windows minimise these problems. Now the industry has introduced the W50Therm steel window which is supplied by members of the

Steel Window Association. This system is based on

highly engineered, thermally broken steel sections. Importantly, these have been designed to be as similar as possible to solid, hot rolled steel sections of the W20 and W40 steel windows and offer incredible versatility. The W50Therm not only offers superior thermal performance, it also provides all the benefits traditionally associated with steel windows.

enq.213

Window safety restrictors from J.Banks



Award winning UK hardware manufacturers **J.Banks Ltd** has been designing, developing and producing door and window products for over one hundred and sixty years. Following the first design for a concealed window restricting device more than twenty years ago, the company has been actively involved in a continuous programme of design and development, which has now evolved into the most comprehensive range of both concealed and face fix window restrictors available from any European manufacturer.

J.Banks has developed a wide suite of products designed to meet a variety of applications and window profiles.

enq.215

The single-bank ventilation louvre system



System 75 louvres from **Larcine Engineering** offer high levels of ventilation, with outstanding protection against rain penetration – usually without the additional cost or complexity of a second or third bank of louvres. The system offers a range of different blade design options offering performance tailored to application requirements. Available as any size panels or assemblies, rooftop, cladding or general louvre screens including doors, corners, triangles, circles and rakes. The System 75 louvres have

rain penetration rejection of up to 99.6 per cent with up to a 24 per cent physical free area at 1m high and a K Factor of up to 52.5.

01501 731600 www.larcineengineering.co.uk

enq.214

Panoramic possibilities



Main contractor and owner, Paul Snell, worked with his architect Charlie Luxton to transform the derelict Grade II Listed Tew Farmhouse and Barns from a dilapidated state into six luxury holiday lets. The versatility of **Rooflight Company's** neo™ range meant a single glazing system for the new zinc roof could be specified.

In total twenty eight neo™ roof windows in various sizes were specified, some with concealed cill motorised opening. Where neo™ has been installed into bedrooms, blinds matching the internal décor have been fitted.

enq.216

Advanced Manufacturing in Sheffield



Factory 2050, the latest development within the University of Sheffield's Advanced Manufacturing Research Centre (AMRC), has a striking, ultra-modern appearance, partly thanks to an external Solar Shading solution from **Levolux**.

The development comprises a main rotunda building and an adjoining rectangular building. Levolux was approached to develop a passive solar shading solution, to be applied to both buildings. The solution proposed by Levolux comprises oval-shaped aluminium louvres, arranged horizontally between vertical aluminium carriers. Each louvre measures 60mm wide by 50mm thick and is formed from extruded aluminium components. Based on Levolux's Infiniti Fin system, the oval-shaped louvres feature concealed fixings for a clean, uncompromised appearance.

enq.218

AluK systems help future proof Welsh school



The Welsh Government's 21st Century Schools Programme aims to deliver effective learning environments and to develop best practice in school design. The scheme's main target is to create a sustainable construction system of education buildings in Wales.

AluK systems were specified for Block 21 of the Ysgol Maes Y Gwendraeth, a new secondary school in Llanelli, South Wales, which incorporates the school's new Design and Technology building, designed by Lawray Architects. In total, approximately 340m² of aluminium profiles was used, with 105m² used in the AluK SL52 curtain walling system, 215m² for the AluK top hung 58BW window systems, as well as 20m² in the AluK single GT55 TB door systems.

01633 810440 www.aluk.co.uk

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IG Doors developing 25 acre site

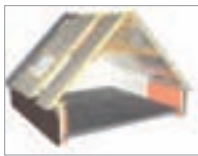


The development of **IG Doors'** new production facility in Caerphilly is the first phase of five planned for the site and will enable faster and more efficient manufacturing and provide more space for storage and distribution. Last year the company enjoyed

a turnover in excess of £29 million from its UK base showing growth for the eighth successive year. The company is owned by The Hörmann Group, a fourth generation European family owned business which specialises in the supply of doors to a range of markets and has made over 15 million door products since it began trading in 1935.

enq.220

Recticel showcase feel-good systems at Vision



Leading PIR manufacturer **Recticel Insulation** is launching its new 'feel good inside' philosophy and debuting a self-supporting room-in-a-roof system for pitched roofs at this year's Vision built environment exhibition. The next-generation product, L-Ments™, comprises roofing underlay, counter battens and

integral structural timber in one PIR insulation panel as a single lightweight cost-effective modular roofing element, making it exceptionally quick and easy to install. The innovation new system enables specifiers and contractors to design and build roofs without the risk of thermal bridging, providing them with a future-proof solution thanks to its high-performance insulation core.

01782 590 407 www.recticelinsulation.co.uk

enq.221

Striking design realised with Kingspan TEK



The **Kingspan TEK Building System** has helped to alleviate the pressure on an iconic build in Lewes, East Sussex. Clad in CORTEN rusted steel, the striking design blends the contemporary tastes of the homeowners with the industrial heritage of the site. The plot

on which to build the home, dubbed 'The Gateway to Lewes', was a mere 11m wide. In order to realise this adventurous aesthetic on such a narrow plot, the Kingspan TEK Building System was specified. The System comprises of structural insulated panels, which can be pre-cut to each project's specification. This bespoke approach, combined with the panelised system construction, allowed the construction team to establish a fast and predictable installation programme.

01544 387 384 www.kingspantek.co.uk

enq.222

Kingspan rises to the challenge



Products from **Kingspan Insulation's** Kooltherm and Therma ranges have helped to transform a derelict water tower in North Yorkshire into a striking family home, as featured on Channel 4's *Restoration Man*. However, as with any conversion of an industrial building into a domestic dwelling, there were some inherent design issues that needed to be considered. This led to the

specification of Kingspan Kooltherm K12 Framing Board. Timber studwork was installed on the inner face of the brick external walls. 50mm thick Kingspan Kooltherm K12 Framing Board was then installed between the battens. The insulation boards offered a lightweight solution which could easily be cut to size.

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enq.224

Iconic building uses DX Air Conditioning



AET Flexible Space, a leading provider of underfloor air conditioning is currently delivering equipment to the former Ireland Brothers warehouse in Belfast. The building is a five storey redbrick warehouse originally constructed for Ireland Brothers Linen Manufacturers around 1905, possibly designed by Harry Hobart. With underfloor, plenum systems, fully conditioned air is fed into the plenum by zonal downflow units, which is then supplied into the workspace via fan terminal units. The fanile units feature integrated controllers where users can personally adjust fan speed and temperature to suit their own comfort. Systems can be configured with underfloor or high level return and can easily integrate with passive or other ventilation systems.

01342 310400 www.flexiblespace.com

enq.225

Vortice embraces BIM



Building Information modelling (BIM) is becoming more widely used as architects and specifiers see the benefit in time saving and accuracy that it can offer for their plans and modelling. Vortice products are now listed on the BIM Object database and drawings/specifications are free to download. The big

benefit of BIM is that all those interacting with a building can optimise their actions, with entire teams working to the same standards to produce the best possible project outcomes. BIM brings together all the components for a building so different aspects of the design can be integrated more effectively. Vortice BIM models are free to download from the <http://bimobject.com/en/product>.

01283 492949 www.vortice.ltd.uk

enq.226

The ultimate solution to low water pressure and flow



Stuart Turner's successful range of flomate mains boost pumps has been further extended with the introduction of the new flomate iBoost. Poor water pressure and limited flow rates can be a real problem for many households. In a larger property with multiple bathrooms and en-suites, these issues frequently result in poor performing showers at key times of day and can make showering a miserable event rather than the invigorating experience that it should be! The flomate iBoost has been developed for larger domestic properties which have significant water pressure and flow demands. This new fully integrated package combines a 200 litre cold water break tank which overcomes restricted mains water flow and a high performance multi-stage pump to dramatically boost pressure. The flomate iBoost is capable of delivering water at pressures up to 4.5 bar and peak flow rates in excess of 100 litres per minute. In normal use, the system will deliver 60 litres per minute at three bar which is adequate for four showers each delivering a more than satisfactory 15 litres per minute. Designed for use in conjunction with the latest high-flow combination boilers and pressurised hot water cylinder systems, the iBoost features a high gloss white front panel and won't look out of place if standing amongst other appliances in a kitchen, utility room or garage.

01491 572655 www.stuart-turner.co.uk

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Spacetherm® gives winning performance



Spacetherm has been supplied by the A. Proctor Group for Ski Dubai, one of the most demanding of all environments, where thermal performance is crucial. Located in the Mall of the Emirates, this unique structure provides 22,500m² of indoor ski area. Due to the challenging nature of the centre, it

requires innovative products, which are capable of maintaining the temperature range between -1 to -20°C, therefore Arup consultants approved the use of Spacetherm. Designed to prevent thermal bridging through a component or element of a structure, Spacetherm's unique properties can be beneficial in managing thermal bridging either in warm or cold climates.

01250 872261 www.proctorgroup.com

enq.229

Kingspan TEK offers outstanding returns



A new study from Sweett Group has demonstrated that by specifying the Kingspan TEK Cladding Panel over traditional steel frame wall systems, it is possible to reduce wall thicknesses and increase usable space within commercial properties. The report shows that this can lead to a Return on Investment (ROI) of over 1,000 per cent on the cost of the panels. The 'Real Value of Space' research was commissioned by Kingspan Insulation. The summary

and full report are available to download for free on the Kingspan TEK website. Sweett Group's research considers two external wall scenarios and compares a Kingspan TEK Cladding Panel construction with two metal stud wall constructions insulated with mineral fibre and rock mineral fibre.

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Find paradise with Kinedo Eden from Saniflo



The range of self-contained Kinedo shower cubicles from Saniflo now features the stunning Eden with polished chrome profiles and external Cristal Plus coated glass panels plus internal panels in gorgeous opaque white glass. As with all Kinedo cubicles they are completely leak-free with no requirement for silicone or grout. Available as quadrant and corner versions, with either pivot or sliding doors and left and right handed versions. It comes in the full range of popular

sizes including 800mm x 800mm, 900 x 900, 1000 x 800, 1200 x 800 – ensuring it is suitable for every shape and style of bathroom.

0208 842 0033 www.saniflo.co.uk

enq.233

Care range of showers from MX



The MX Thermostatic Care QI and Care 2 QI electric shower ranges are fully BEAB Care and RNIB Approved making them ideal for people who require more showering assistance and who have additional safety requirements. Ideal for care and nursing homes, sheltered housing schemes and general needs housing where older and younger people live – they provide an extra level of safety in the shower. They have many benefits and features

including minimal touch buttons, large easy to read illuminated temperature display, maximum temperature lock for added safety, audible user feedback on push button commands and a double bleep indicator when the shower reaches maximum temperature. Call MX Group or visit the website for more info.

01684 293311 www.mx-group.com

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New KAPAtch brings together the PUR foam core of 3A Composites' famous KAPA family of foam boards, with coated aluminium cover sheet layers to create a unique, ultra-light and ultra-rigid foam board with a European class Bs2D0 fire rating – and it's suitable for interior and exterior applications. The sur-

faces of KAPAtch have been developed to give outstanding results when digitally printed. Its unique construction gives it excellent stability and stiffness and it can be easily processed with conventional metalworking & woodworking machinery. KAPAtch is available in 1250mm x 2500mm and 1250 x 3050mm sheets, in 5mm and 10mm thicknesses – from Amari Plastics branches nationwide.

01932 835000 www.amariplastics.com

enq.234

All inclusive in the loo



The advent of a new concept in 'away from home' accessible toileting has prompted industry expert Clos-o-Mat to help specifiers by publishing advisory guidance. The white paper 'Considerations in the Provision of Space to Change Wheelchair Accessible Toilets' was written by Clos-o-Mat to clarify how the

new facility sits within current legislation and good practice, between conventional wheelchair-accessible (Document M type) toilets and the 'bigger and better' Changing Places assisted accessible rooms. The document covers the rationale behind Space to Change, the technical requirements, and how those integrate into Building Regulations Approved Document M, BS8300:2009.

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Pipes of peace

Victoria Willis, product manager for Geberit, provides an overview of the basics when it comes to achieving good acoustics in bathroom design, and proposes an alternative approach to existing inadequate standards.



Good building design is about the whole range of senses and what you can't see as much as what you can. This is never more true than in the bathroom, where reducing sound transmission to adjacent rooms is an extremely important task to get right, particularly in hotels and apartments.

A well-designed bathroom should not only be functional and stylish, it must ensure privacy for its users, and minimised disturbance for those outside of the bathroom. For architects and specifiers working on hotels and apartments, particularly of the high-end variety, reducing noise is a priority.

A quiet bathroom is something all projects should strive for but in luxury developments in particular it should be seen as an intrinsic feature. Many high-end hotel developments now stipulate that bathrooms should create no more than 25 dBs in adjacent rooms, so there is no place for clunky pipes and excessive flushing noises.

Excessive sound caused by flushing, cisterns filling and water travelling through the pipes can be combatted using good

bathroom design and product choices. Unacceptable washroom noises are not an inevitability. To achieve a peaceful bathroom, every element must be considered; from where the bathroom resides in the building, to the type and configuration of drainage pipes, sanitaryware and how it's installed.

Unrealistic standards

Pipes travelling through a building, particularly one with many floors and multiple bathrooms, are one of the key sources of noise problems. However the standards in place to combat this do not go far enough to ensure they are fit for purpose, in our opinion.

EN 14366, which deals with drainage pipework, measures noise generated by pipes; within a building. Drainage pipe noise is measured without connections to appliances, and in an artificial room layout. Pipework is exposed, causing airborne noise that is unlikely in a real bathroom and solid-borne sound is measured through a concrete wall. In short all of this adds up to an unrealistic scenario. Toilet flushing, filling noise and

'Good system design with components that put acoustic performance at the top of the agenda can bring huge dividends for specifiers, clients and ultimately occupants'

water flow is all excluded from the tests. The test reports also often ignore the types of system components, such as the types of brackets and fittings used.

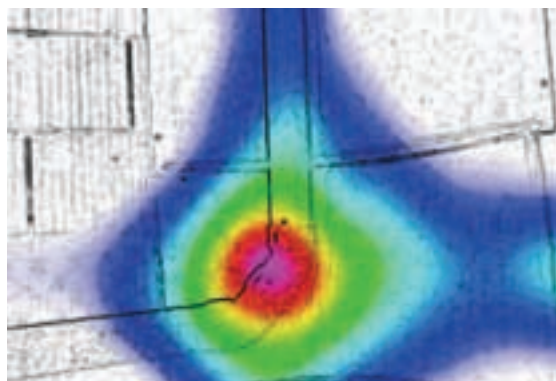
As an alternative approach we have created our own acoustics laboratory to better test sound levels in real bathroom scenarios. By installing a complete system, measurements from true-to-life situations can be taken. The acoustics laboratory has three different adjoining rooms set-up so the reality of how sound travels can be explored.

Quiet bathroom design essentials

Good system design with components that put acoustic performance at the top of the agenda can bring huge dividends for specifiers, clients and ultimately occupants.

Peaceful pipes

- Minimise the amount of off-sets in the pipe runs – a 45° bend creates 9 dB as opposed to just 5 dB from a 15° bend. Multiplied by the numerous pipes used within a many-floored building and you have considerable sound savings.
- Always choose pipe brackets with rubber linings.
- Consider pipework featuring integral noise reduction, such as stone composite to deaden water sound. Sound insulating ribs on impact zones further help to further minimise sound development from waste water in pipes.



Silent sanitaryware

- Wall-hung sanitaryware is a much better sound-reducing option than back-to-wall or close-coupled WCs, eliminating noise travelling through the floor.
- Opt for a pre-wall – our laboratory research shows this can have significant effect on sound insulation by moving the WC away from the main fabric of the building.
- Options for reduce structure-borne sound include frames with rubber tipped slush rods, a polythene jacket insulating the cistern, sound absorbing seal on the drainage bracket or an insulation pad to decouple the wall-hung pan from the wall and rubber brackets.

enq.239

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New additions to Latham's HI-MACS® range

As the exclusive distributor of HI-MACS® solid surface in the UK and Ireland, James Latham has unveiled two exciting new lines, the LUCIA collection, a range of new colours, created by famous Dutch designer, Marcel Wanders as well as an extended range of top mounted basins.

With the LUCIA collection, which includes five new colours, HI-MACS® retains all of its unparalleled qualities: versatility, thermoformability, durability, invisible joints, and of course it is waterproof and hygienic. In addition, the rectangular and circular shaped HI-MACS® basins which have been especially designed to sit on top of vanity units or bespoke designed top surfaces, mean that mix and match is now a reality with HI-MACS®, especially for renovation projects where there is a desire to combine styles and materials for an eclectic space design.

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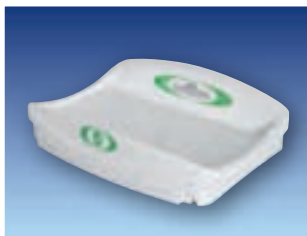
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MT80 Countertop
Baby Changing Unit



reader
enquiry
242



Core solution for disabled



A new Changing Places assisted accessible toilet is addressing local accessibility needs in England. The Changing Places personal care facility compliments the existing wheelchair-accessible toilets. Giving more space, to accommodate the user and up to two carers, it also includes a height-adjustable changing bench and

ceiling track hoist. Supplied by **Clos-o-Mat**, the additional equipment ensures people who need extra help with personal care can deal with their hygiene requirements comfortably and safely. Under current Building Regulations, Changing Places toilets are 'desirable' in venues open to numbers of the public, and should be provided in addition to conventional wheelchair-accessible toilets.

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

enq.243

Vision Design Projects new showroom



Leading Structural and Architectural Glass Trade Contractor **Vision Design Projects Ltd** is delighted to announce the opening of their brand new showroom in Morden, Surrey. The new showroom features a large selection of

design led, and innovative glass products, and is open to Architects, designers, developers and home owners alike. Central in the showroom is the Glas Marte (GM) 'Frameless' Glass Railing system. The beautiful and ingeniously simple railing system offers flexible design solutions and the assurance that testing has been carried out in compliance with the (ABP) TRAV General Test Certificate. The attractive Origin Bi-Fold Door system is on display in two configurations.

0208 335 0290 www.visiondesignprojects.com

enq.245

Geberit Sigma30 expands flush plate range



Geberit has expanded its Sigma range of flush plates with the addition of the Geberit Sigma30. With a choice of either a single or dual flush version the Sigma30 is perfect for a modern finish in any bathroom. Manufactured from high quality materials, the Geberit Sigma30 has an easy flushing

action for user comfort and is simple to install, with tool-free fast adjustment. A stylish addition to the bathroom and the perfect accompaniment to wall-hung sanitaryware, the Geberit Sigma30 has a large rectangular profile with chrome design detail. The Sigma30 dual flush plate is available in six colours, while the Sigma30 single flush plate is available in three colours.

01926 516800 www.geberit.co.uk

enq.247

The Meath chooses Pressalit care bathrooms



Bathrooms in the new-build residential accommodation at Bradbury House, run by The Meath Epilepsy Charity, features specialist equipment from **Pressalit Care**. Bradbury House offers a higher level of tailored support for residents, most of whom have challenging disabilities in addition to epilepsy.

Bathrooms that allow for wheelchair access and full carer assistance were of the utmost importance. The twelve bathrooms were carefully planned to include the latest thinking and technology in supported bathroom design. As part of their research, staff from The Meath visited the test centre used by Pressalit Care, where they were able to determine their specific requirements by re-creating different layouts and mocking up exact room dimensions.

uk@pressalit.com www.pressalit.com

enq.248

Washroom's one-of-a-kind changing rooms



Washroom Washroom has created a truly unique changing area at a new luxury central London health club. Washroom worked closely with both Third Space and main contractor Vincent Stokes to install all four new changing areas as well as additional joinery works around the poolside.

A stand-out feature is the bespoke diamond pattern design on Washroom's Luminoso glass shower cubicles. Manufactured from 10mm low iron toughened glass with obscured white screenprint to the reverse of each panel, the full height Luminoso cubicles offer a striking shower solution befitting of this luxury health club setting. Washroom installed a full glass panelled end wall as a feature at the poolside.

enq.244

Venture launches LED Filament Lamp range



Venture Lighting has launched its very first range of VLED Filament Lamps for the domestic and commercial markets. As the trend for classic filament lamps in bars, restaurants, hotels and homes following an industrial or vintage theme returns, Venture has created a highly efficient, low-energy alternative to the classic lamp using

the latest high performance LED technology. Designed to be a direct replacement for halogen or incandescent lamps, Venture's new stylish VLED Filament Lamps are A+ rated and can help save up to 90 per cent in energy and significantly reduce carbon emissions. Available in 4W or 6W, the low-output lamps significantly reduce the electricity consumption of the scheme, which allows users to save a considerable amount of money on operating costs.

enq.246



Style and performance in Oaks washroom

PPHE Hotel Group is known for brands that offer quality with an individual style and that's definitely true of the washrooms attached to Oaks Restaurant and Bar in Nottingham. Reviews on Tripadvisor have likened them to a Butcher's cold storage room with "Freezer" style doors and Hadrian unpainted steel cubicles. Steel clad walls and stainless steel sink troughs complete the fittings along with bare industrial light bulbs. Hadrian toilet cubicles are supplied in the UK by **Relcross Ltd**. They can be supplied to match any RAL paint colour as well as in a number of special effect finishes including brushed or polished stainless steel. The 5 galvanealed steel "Elite" cubicles fitted at Oaks are floor mounted and head rail braced with privacy ensured by using continuous stop and hinge sight line fillers along the door edges. For more information please visit the company website, or contact them directly.

01380 729600 www.hadrian-cubicles.co.uk

enq.249

Reeve spreads it's wings



This month Reeve Wood has been supplying floors to international clients. Reeve Wood is incredibly proud of the beautiful new parquet floor which has just been laid at the Embassy of Sweden in London. Made from its Prime grade Ash, it is a 70 x 350mm herringbone parquet, coloured in Reeve White and finished in the matt version of the company's high traffic protection. Kurt Geiger has also opened a store in Riyadh, Saudi Arabia with Reeve Wood's 14mm Bandsawn Oak

Floor featured. To order a sample of Ash Prime grade or Bandsawn Oak flooring, please visit the company's website.

01553 776 835 www.reevewood.com

enq.250

New and improved Easyoxy AG epoxy



BAL have launched a new and improved formulation of its hygienic waterproof BAL Easyoxy AG epoxy adhesive and grout for walls and floors. Chemical-resistant and solvent free, the new formulation provides end users with an epoxy that is much easier to mix, apply and clean-off during installations. Now available in white, black and grey and 4kg sizes, BAL Easyoxy AG has an excellent set time of

only 12 hours, compared to 24 hours with the previous formulation. What's more, the new formulation has an extended pot life of 45 minutes, giving users more time to mix and apply. Recommended for commercial and domestic installations including kitchens, industrial/chemical plants and hygienic critical environments.

01782 591120 www.bal-adhesives.com

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enq.253

Flooring Challenge met by Remmers



The new 1,600m² workshop facilities at The Trade Centre Wales in Neath, required a breathable anti-slip system to be installed due to the uncertain moisture levels of the relatively new substrate. The installers TPS360, measured the moisture levels during the installation and to facilitate the curing process, temporary heating and ventilation systems

were used to reduce any moisture present. **Remmers** BS3000 SG was selected as a high quality, damp tolerant resin, with a wide application spectrum and VOC free properties. ADD 250 Polymer Beads were then added to provide an anti-slip, textured finish to give a surface that remained easy to clean.

01293 594010 www.remmers.co.uk

enq.254

Frelan crystal glass collection



The beautiful Frelan range of crystal and glass door knobs and cupboard handles feature classical and contemporary designs. Manufactured to the highest quality using solid brass combined with Swarovski elements they add a touch of glamour to any door, or piece of furniture. The faceted cut door knobs will really catch the light and truly sparkle as a stand-out feature of

your design. The cabinet door knobs can be coordinated in different sizes to suit all cupboards and drawers and also to match with full size door knobs. Priced from £4.06 and available from **More Handles**.

enq.255

Fire Design Solutions wins contract on Elephant & Castle regeneration



As part of substantial regeneration works in London's Elephant and Castle, **Fire Design Solutions (FDS)**, an award-winning smoke ventilation contractor, has been appointed to provide a number of its bespoke systems for a new residential development. FDS will design, install and commission fire safety systems for seven residential buildings on the first phase of Elephant Park, South Gardens – which range from six to fifteen storeys in height – as well as an underground car park. FDS will design and install both mechanical and natural smoke ventilation systems based on the individual buildings' requirements. Two of the buildings will be fitted with natural smoke ventilation systems, while the complex design of the remaining five blocks will require the installation of mechanical smoke ventilation systems to return corridors to tenable conditions in the event of a fire, providing residents with a safe escape route. A corridor environmental system will also be installed, mitigating excess heat in the common areas during day-to-day use. FDS will install residential sprinkler systems in each apartment to provide additional protection while reducing the risk of fire spreading. FDS will also provide a car park smoke ventilation system to exhaust pollutants produced by vehicles and to clear smoke to assist firefighting operations in the event of a fire.

01322 387 411 www.firedesignsolutions.com

enq.256

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.

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



enq.257

Park at the Ark



UK Barrier Services were commissioned to replace a pair of barriers for the ARK Conference and Events centre. The venue wanted to update the parking equipment for its private parking area. The barriers from FAAC are now operated through a new wireless GSM intercom and the existing keypads. UK Barrier Services installed Magnetic Microdrive Access barriers which are specifically designed for use in high frequency sites, e.g. industrial sites, residential buildings or parking areas. The Magnetic Access range not only offers a long-life cycle, great reliability and quality but also has an enduring design with extremely low operational costs. For this installation LED illuminated barrier arms were chosen to offer maximum visibility.

01256 318100 www.faac.co.uk

enq.258

Gradus and UKSRG make stairs safer



As a member and key contributor to the UK Slip Resistance Group (UKSRG), contract interiors specialist **Gradus** has provided valuable input into a new guide that aims to make stairs safer. The guide entitled 'What Makes Stairs Safer?' offers an overview of the key aspects involved in creating safe internal stairs and aims to provide valuable, independent advice to anyone involved in the design, specification, construction, installation, fitting or maintenance of stairs. The guide illustrates the rate of 'Slip Trip and Fall' (STF) accidents. As an independent organisation representing companies with an interest in floor safety, the UKSRG is committed to reducing this rate and consequently commissioned members to produce the guide.

enq.259

Charcon launches premium Yorkstone paving range



Charcon, the commercial hard landscaping division of Aggregate Industries, has launched Abbey Moor natural stone flag paving and setts, suitable for a wide range of applications.

Available exclusively to Charcon, the new premium range is a genuine natural Yorkstone from Yorkshire, available in a unique 50/50 colour blend of light blue/grey and rustic buff. The traditional-style paving comes in diamond sawn and flamed finishes with linear modules available, while the setts are available in a diamond sawn, flamed or tumbled finish.

Abbey Moor offers excellent durability and exceptional resistance to wear, making it suitable for both pedestrian and trafficked areas. When in situ, it is skid and slip resistant, even when wet, and retains these properties for the whole life of the product. Quarried and manufactured in the UK, Yorkstone reduces CO₂ emissions in manufacture by 50 per cent and is 100 per cent recyclable, meaning less material is sent to landfill after use. A full range of matching accessories including tactile paving, kerbs, steps, benches and other bespoke items are available. For further information, including technical data sheets, visit the Aggregate Industries website. For technical support, please contact the company directly.

01335 372222 www.charcon.com

enq.260

Silva branches out with yellow cedar



Silva Timber Products has expanded its product range by becoming the UK's first supplier of yellow cedar shingles and shakes. The firm has reached a deal to import the wood from British Columbia in Canada. Yellow cedar is one of the world's most durable woods and its consistent grain structure means it is a good species for carving, joinery and carpentry. It grows along the Pacific coast of North America, from Alaska to Oregon, and is approved under the Programme for the Endorsement of Forest Certification. Silva Timber's deal follows a similar agreement earlier this year which saw it become the sole UK supplier of mandioqueira, a South American tropical hardwood. The company already supplies western red cedar to the UK market. Yellow cedar is its 15th new product line in the past year aimed at consumer and commercial markets. Managing director Nick Taylor said: "We are committed to providing the highest quality and sustainably sourced speciality timbers for private and commercial projects. Yellow cedar has exceptional longevity, is economical and hardwearing. It's a beautiful species with excellent performance characteristics, and is highly-rated by those with specialist knowledge, such as architects. We like to lead where others follow, and we think there is every reason our customers will love it."

01514 953111 www.silvatimber.co.uk

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enq.266

A flood of reasons for designed-in SuDS

Integrating Sustainable Urban Drainage systems (SuDS) into every future urban design project is the ideal solution for effective water management to combat the effects of climate change. Ian Geeson, technical manager at Charcon, the commercial hard landscaping division at Aggregate Industries, describes how harnessing the versatility of systems using good design can also benefit visual appeal and scheme delivery.



Once again this winter the UK saw widespread flooding, with 16,000 homes in Yorkshire, Lancashire, Cumbria and parts of central and north east Scotland affected. Damage to roads, bridges, public rights of way and drainage systems totalled £250m and the insurance bill topped £1.3bn, but the cause of these traumatic events was not only rivers breaking their banks.

In the natural environment, a high proportion of rainfall soaks into the ground, filters its way into rivers and is carried away. However, in the urban environment where there is extensive use of hard surfaces, water is unable to soak away and there are resulting high volumes of surface water run-off during storms. This water enters drainage systems that were never designed to have the capacity to cope with such high volumes, and this is what happened this winter on a grand scale. In built up areas there was nowhere for the water to go and thousands of gallons poured into the sewer systems resulting in water backing up and flooding roads, homes and businesses.

There are a number of high performance and cost effective Sustainable Urban Drainage Systems (SuDS) solutions available

which are designed to manage surface water runoff. However, too often during the design process, the role SuDS can play in urban design and effective water management is misunderstood, an afterthought, or perhaps forgotten entirely.

A holistic approach brings wide benefits

There is a common misconception that SuDS can only be used in certain applications. But in fact, they can be applied to any residential, commercial or urban project, whether in small towns or built-up city centres. And whilst they can't prevent flooding, by introducing permeable surfaces coupled with water storage and infiltration systems, surface water run-off will decrease, relieving pressure on drainage and sewer networks ultimately helping reduce potential flooding. The use of these techniques is well proven and documented.

While the technology is not a new concept in the UK, architects, designers and engineers often forget that there is much more to SuDS than water storage. As well as reducing water run-off and the risk of flooding it can also help remove pollutants and create societal and biodiversity benefits. Water

‘There is a common misconception that SuDS can only be used in certain applications’



run-off treated within the system can be harvested for irrigation, biodiversity or amenity use within a development – or simply recycled. Approaching SuDS holistically, the opportunities for architects to bring wider range of benefits to a development are manifold.

The Government’s recent change in approach to implementing SuDS through the planning system is a very clear call for architects, designers and engineers to lead the way and develop multi-functional design approaches. A holistic approach should see the issue of drainage become an integral part of the design process – and not an end in itself. Indeed, by integrating SuDS with urban design, the architects, designers and engineers will be able to better deliver amenity and community value as well as improving the character of the landscape and townscape.

However, to achieve this, surface water management needs to be linked to development planning from the very start of a project. This will allow space to be used more effectively and in a multi-functional way, enabling water storage and conveyance zones to form part of the development’s character.

Integrating water management with design of developments will also maximise the drainage system’s capacity for delivering multiple planning and environmental benefits. Wherever possible, the 2013 Code of Practice BS 8582 suggests incorporating permeable surfaces and surface-based conveyance. This could be porous concrete and asphalt – or when aesthetics is high on the agenda, concrete block permeable paving.

Whereas traditional drainage systems are constrained by capacity, SuDS solutions have no such constraints. SuDS solutions incorporating permeable paving allow water to soak naturally where it falls into the pavement below. Such systems can be designed to address a number of key issues such as water quantity, water quality, trafficking and biodiversity. By considering these key issues in the design you can develop drainage systems that reduce the impact of high levels of rainfall on communities and wildlife.

Design responses

The Code of Practice advises that permeable surfaces and surface-based conveyance and storage systems should be used in concept designs wherever practical. It also highlights the importance of linking multi-functional SuDS design to other development infrastructure, such as car parking and public

open space. A recent paper presented at the Building Centre looked at clever SuDS design responses to flood risks and considered innovative designs being proposed by leading architects which seek to ‘live with’ water, rather than just defending against it.

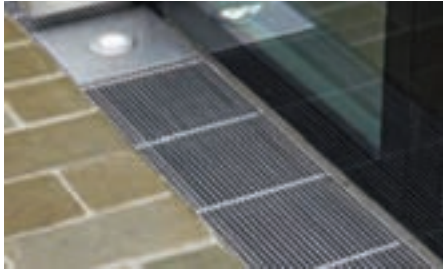
Supporting this ethos, the permeable pavement can be designed to treat the water as it passes through the system, removing water-borne pollution, meaning it can be used in landscape design, harvesting and ecology. The presentation at the Building Centre outlined the stark reality of flooding for homeowners to illustrate the importance of designing developments that tackle it. As water filtrates through a permeable pavement system, many of the pollutants are treated or removed before the water is stored or gradually released into the drainage network or natural infiltration. Concrete block paving can be used in almost all circumstances, for full infiltration to the ground, partial infiltration with excess water directed to the next SuDS stage, or full containment and controlled release to the next SuDS stage.

Concrete block permeable paving is ideally placed to meet the Code of Practice requirements and is a good choice for architects following holistic, design-led approaches. There is now an extensive range of permeable paving options available giving architects design freedom on aesthetics of a streetscape.

In addition, the performance of products is comparable with or better than standard pre-cast concrete paving alternatives. As well as providing a level, firm and slip-resistant surface, permeable paving also removes the needs for cross-falls, channels and gulleys, and can be designed to support heavy trafficking and loads. Very little maintenance of systems is required – and as there’s no need to install below-ground drainage, ongoing cost and maintenance is kept to a minimum if SuDS is designed in from the start of the project.

The industry needs to grab the opportunities that SuDS presents with both hands to realise the benefits that can be brought to projects. Earlier engagement with landscape architects and SuDS manufacturers is key to ensuring the right solution is identified for the project – whether that’s permeable hard landscaping systems of soft SuDS, such as ponds, filter drains, or artificial concrete streams. In so doing, architects, designers and engineers will be able to achieve future-proof, attractive and sustainable solutions.

Hauraton customised drainage solutions



Hauraton manufacture a vast selection of surface water drainage channels for civil and landscaping applications that cover all loading categories from Class A15 to F900 and storage volumes up to 443.0 litres per metre. Their FASERFIX® channel components are cast from the company's Fibre Reinforced Concrete (FRC) whilst the RECYFIX® channels are moulded from 100 per cent recycled polypropylene (PP). Both of these channels are available with a wide range of slot or mesh gratings made from ductile iron, galvanised steel, stainless steel or FIBRETEC®, a composite reinforced material (PA-GF) developed

specifically by Hauraton.

Although Hauraton's FASERFIX® and RECYFIX® stock ranges cover most application, architects, architectural technicians and engineers need not be constrained by the components offered. The company can provide customised solutions that achieve reliable drainage, and where necessary, provide designs that blend in with the desired aesthetic effect demanded.

Where a customised solution would provide the answer, Hauraton Area Project Managers will document the designer's specific requirements at an early stage of the pre-planning phase. A specialist team will then engineer the channel scheme taking into account the aesthetic appearance of the channel run as well as its functional requirements.

Tim Connolly, managing director of Hauraton Limited says, "Solving the many and diverse surface water drainage requirements requires in-depth knowledge, considerable expertise and comprehensive experience. Hauraton's technical office personnel and Area Project Managers have this technical and product-specific knowledge. If



a specifier requires anything out of the ordinary with regard to functionality or design, we can support their individual requirements, from project-specific tender text, through to production, delivery and installation. For further information about customised drainage solutions, customers can request a copy of our digital 48 page catalogue. Technical information including sizing and installation details for Hauraton stock ranges is available digitally on www.hauraton.co.uk and for case studies go to www.drainageprojects.co.uk."

01582 501380 www.hauraton.co.uk enq.268

JDP and Kier combine to provide effective stormwater management for housing development



A leading water management specialists JDP has supplied large diameter HDPE pipes for a stormwater attenuation tank to provide effective water management and protect a new housing development in Wheal Harmony, Redruth. Kier Group one of the UK's largest property and construction companies required an effective drainage solution to protect a new development of 65 affordable dwellings for Sanctuary Housing at Wheal Harmony, Redruth. JDP's water management team supplied an attenuation tank of 59.5 metres in length comprising of 1500mm HDPE pipe from its depot in Launceston. Large Diameter HDPE Pipes are a tried and tested method for carrying stormwater underground. Sustainable Urban Drainage Systems (SuDS) however, are much more than a single product. The objective is to design a system to deal with the flow at source, rather than transferring the problem further down the watercourse. JDP has an extensive range of products that provide effective attenuation and infiltration including the recently extended RAINBOX® portfolio offering flexible solutions to minimise the risk to localised flooding and provide best practice SuDS. Through its technical design department JDP provides expert design, advice and support for projects involving SuDS.

0800 195 1212 www.jdpipes.co.uk enq.269

Tobermore permeable paving specified for Scotland's £842m new Hospital



The NHS Greater Glasgow and Clyde district board recently faced challenges in seeking a modern, sustainable landscape for the new £842 million Queen Elizabeth University Hospital in Glasgow. **Tobermore** solved the problem with the provision of an attractive SuDS paving solution. The facility, which extends to 28.6 hectares, forms one of the largest acute hospitals in the UK. The large-scale project was constructed by Brookfield Multiplex and Gillespies led the master-planning and landscape design of the healthcare facility. Tobermore introduced Gillespies to the Hydropave permeable paving range – a hard landscaping solution that promises durability, long-term structural performance and superior aesthetic appeal. A combination of Tobermore's Hydropave Sienna Duo and Hydropave Fusion permeable paving in the sparkling shade of silver was specified for the landscape. The striking natural granite aggregate surface of Hydropave Sienna Duo and Hydropave Fusion has created a chic, modern appearance at the Queen Elizabeth University Hospital. The inclusion of a SuDS solution is an effective method of creating a sustainable hard landscape, and Tobermore's innovative Hydropave permeable paving serves this function extremely well.

0844 800 5736 www.tobermore.co.uk enq.270

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This means the initial deluge into the drains is delayed and around half the volume will be

absorbed, so much less pressure is put on the drainage systems in dense urban environments.

The slowing down of the water also gives designers a better chance to channel and collect the run-off into comprehensive SUDS systems.

M-Tray® is available with a mixture of sedum species and also with native wildflower planting, designed to attract butterflies and bees.

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to collect surface water off paved or asphalted areas and towards an underground drainage system. It has an anti-slip, hardwearing galvanised steel grate which maintains structural integrity across the area. This one metre long durable channel is ideal for pedestrian areas for linear surface drainage.

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The grate on the channel has boltless locking clips, holding the steel grate securely in place but allowing easy access to the gutter section.

Applications include: domestic projects; such as driveways, gardens & patios and public areas; such as pedestrian walkways, door thresholds, squares, recreational areas, schools, parks and playing fields.

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enq.271

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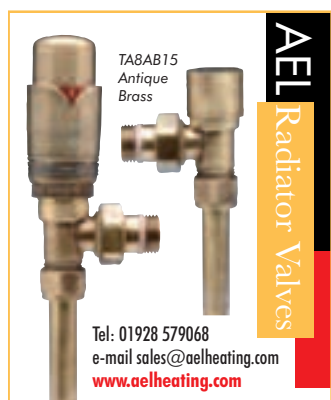
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