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Cover

Chelsea FC stadium design, Stamford Bridge, west London

Herzog & de Meuron gets go-ahead for its brick pier-encased stadium, page 05

T FONDACO DEI TEDESCHI, VENICE

A sensitive restoration preserves a Venetian palazzo as a high-end retail destination

02.

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FROM THE EDITOR



ar be it from me to be a purveyor of doom and gloom, but even the most optimistic architect has to be somewhat nervy about the impending Brexit negotiations, which are likely to be conducted in secrecy despite their huge impact on all business sectors across the country.

Despite that general lack of clarity on where the Government's mindset is as it approaches the triggering of Article 50 in March (we will be leaving the single market, but we want preferential access to it, is that right?), there has been an unwelcome recent revelation. It was very unwelcome to the Government, being a leaked document someone gave to *The Times*, suggesting that it might be somewhat difficult to maintain that absolute secrecy throughout a two-year negotiation.

But the annoyance in the Cabinet pales in comparison by what many in the construction industry will be feeling to as it once again is confronted by the stark reality of where the industry sits in the Government's pecking order. For the document purports to reveal the Government's list of priority sectors in its Brexit negotiations, which are presumably the ones it will be fighting hardest to protect, possibly with bespoke deals similar to what Nissan has secured.

And despite the recent admittance that the housing market is "broken" in the context of its ability to deliver the homes needed to stave off the housing crisis, now it seems that construction isn't a big problem for the Government. Never mind the warnings of skills shortages and the already visible hikes in materials costs post-Brexit.

What are the 'high priority' sectors? Automotive and Banking – perhaps no surprises there. However, the 'medium priority' sectors outranking construction include Chemicals, no doubt important, but is this sector really more vulnerable than construction to the possible downsides of Brexit? And when you look carefully, it's not even construction as a whole sitting alongside telecoms as the low priority industries in the list, but the sub-sector of 'steel construction,' under attack from Chinese dumping of cheap steel.

This view of the sector seemingly being seen as less worthy of focus has led to expressions of disbelief, and has prompted head of industry-wide body Build UK Suzannah Nichol to "appeal for calm." However, it needs a bit more than that, and a strong voice to be heard so that the Brexit negotiators in Government understand what's at stake.

The architectural profession certainly does – RIBA's recent poll of 1,100 architects found that four in 10 EUnational architects in the UK have considered leaving, and over 68 per cent of those surveyed said they thought that the results of leaving the EU would not be positive for architectural practices. Surely they can't all be doom and gloom merchants? And surely the UK needs to provide assurance to the gifted architects from the EU that enrich the profession?

Our View Point from leading firm PLP (page 14) gives a fascinating view of human resources in a practice, and although they are putting on a brave face, they are confronting the fact that there may be trouble ahead.

James Parker Editor



ON THE COVER... © HERZOG & DE MEURON

Plans for a new stadium for London's Chelsea FC have been approved by Hammersmith & Fulham Council. For more information, go to page 05.

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NEW STADIUM

Herzog & de Meuron plans for new Chelsea stadium get go ahead

Plans for a new stadium for London's Chelsea FC have been approved by Hammersmith & Fulham Council.

The new brick-clad facility designed by Herzog & de Meuron will replace the club's existing ground at Stamford Bridge, which will be demolished.

The new stadium is expected to cost £500m and will have a capacity of 60,000 seats compared to the current 41,631-seater in Fulham Road. The redevelopment will include decking platforms built over the District Line to the north west and over the Southern rail line to the east. A new pedestrian access from Fulham Road will also be created.

Hammersmith & Fulham Council leader Stephen Cowan, commented: "Chelsea's new stadium will deliver some real benefits to the borough. But we have also made it clear to the club that we fully expect them to work with local residents to minimise the disruption of the works."

Chelsea FC said in a statement: "We are grateful that planning permission was granted for the redevelopment of our historic home. The committee decision does not mean that work can begin on site. This is just the latest step, although a significant one, that we have to take before we can commence work, including obtaining various other permissions."

H&F council has secured £22m in benefits to the local community through the project, including £3.75m to build affordable homes for local residents in addition to already promised recreation facilities improvements in the borough.



Architects Herzog & de Meuron are behind notable sporting facilities such as the Allianz Arena in Munich, the Beijing National Stadium (the 'Birds Nest') and Nouveau Stade de Bordeaux.

Plans for the new Stamford Bridge were first submitted in November 2015 and senior partner Jacques Herzog described the project as "very important", adding:

"Pierre and I have always admired traditional English stadiums because of their specific atmosphere and history. Stamford Bridge has a rich history and is located at the core of a vibrant neighbourhood. Unlike an isolated stadium, it is part of the day to day life of the local community."

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EVENTS

SEMINARS

CDM 2015: Is your project in line with current regulations? 07 March, London www.architecture.com/whatson

FESTIVALS

Clerkenwell Design Week 23 - 25 May, London www.clerkenwelldesignweek.com

London Festival of Architecture 01 - 30 June, London www.londonfestivalofarchitecture.org

EXHIBITIONS

Robert Adam's London Now - 11 March 2017 www.soane.org/whats-on/exhibitions

TRADE SHOWS

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

Ecobuild

07 - 09 March 2017, London www.ecobuild.co.uk

K+B Design

07 - 09 March, London www.kbdesignlondon.com

Materials 2017 25 - 26 April, London www.materials2017.co.uk

Clerkenwell Design Week

23 - 25 May, London www.clerkenwelldesignweek.com

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

Green light for OMA's Factory



A flagship arts centre designed by OMA has been given go-ahead by Manchester City Council.

The Factory, OMA's first major public building in the UK, will be delivered on the former Granada TV Studios site and become the city's new creative industries hub in St. John's Quarter.

It will become permanent home of Manchester International Festival and host a range of events and productions including dance, theatre, music, opera and visual arts.

Ellen van Loon, OMA partner in charge of the project, said: "From classical opera and ballet to large scale performances and experimental productions, Factory in Manchester provides the perfect opportunity to create the ultimate versatile space in which art, theatre and music come together: a platform for a new cultural scene."

It is hoped that The Factory, thought to be worth £110m including a £78m pledge from the Government, will add £1.1bn to the Manchester economy over a decade.

OMA's projects in the UK include the headquarters for Rothschild Bank in the City of London (2011) and a Maggie's cancer care Centre in Glasgow (2011) as well as the Serpentine Pavilion in 2006. The Factory's construction begins in spring.

DESIGN COMPETITION

National Trust launches competition

The National Trust is to launch a design competition in March to restore Clandon Park, a Grade I listed 18th century mansion severely damaged by fire in April 2015.

The Clandon Park International Design Competition will run for six months, concluding in early September. The Trust said it would be the charity's biggest conservation project in a generation. Clandon Park's project director, Paul Cook, commented: "This is the first international design competition to be held by the National Trust for such a significant historic building; signalling our desire to attract the best design talent."

He continued: 'Clandon Park represents a ground breaking moment in British architecture, moving from Baroque to Palladianism."

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EVENT

Material innovation explored at new London show

A new event is promising to bring "the cutting-edge of material solutions" to the ILEC Centre in London on 25-26 April.

Architects and construction professionals can enjoy a showcase of striking designs and explore the functionalities of a range of materials at Materials 2017, which is free to visit for registered delegates.

Launched by the publishers of ADF, Materials 2017 will also offer a comprehensive conference and seminar programme, uniting experts from industry giants such as Arup, Tata Steel and BFG to discuss the latest trends and issues in design and construction.

The show's chair and moderator Ruth Slavid said: "I think it's really important to have an event that focuses on materials. Architects talk about form, space, and light, but in order to create those you have to create them with the materials – whether they're structural materials or the building envelope."

Register now for a free entry to Materials 2017 at www.materials2017.co.uk



Calatrava lands three towers on Greenwich peninsula

Hong Kong-based developer Knight Dragon recently unveiled a £1bn scheme for Greenwich Peninsula which is the first major UK commission for architect Santiago Calatrava.

The three-towered Peninsula Place scheme includes workspace, residential and hotel accommodation and sits at the centre of what is said to be London's "emerging cultural district." The 1.4 million ft² total footprint includes a new tube and bus station, theatre, cinema and performance venue, bars, shops and wellbeing hub, as well as an 80 ft high winter garden and a "glass gallery."

Santiago Calatrava said: "It is an honour to be designing such a piece of the fabric of London, a city I love. In designing this scheme, I have been inspired by London's rich architectural heritage and the very special geography of the Peninsula." The three towers will be connected to the Thames by a new 'land bridge.' The "transformation" of Greenwich Peninsula is London's largest single regeneration project at £8.4bn, planned to provide 15,720 new homes in seven new neighbourhoods.

Peninsula Place, sited next to the O2 arena, will be the gateway to Greenwich Peninsula, "signalling the intent and ambition for this whole new district," commented the developer.

The Peninsula Central neighbourhood will be home to a variety of residences including two buildings designed by Greenwich Peninsula masterplanners Allies & Morrison providing 800 new homes, 200 of which will be affordable. Other architects working on Greenwich Peninsula schemes including SOM, Marks Barfield, DSDHA, Alison Brooks and Duggan Morris.

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PROJECT

Tate Harmer successfully pitches 'tent' design for scouting museum

Tate Harmer will design a £6m timber museum and visitor centre for The Scout Association (TSA).

The "modest, single storey" buildings will be made of prefabricated cross-laminated timber to minimise construction time and help the scheme achieve BREEAM 'Excellent' or 'Outstanding' rating for sustainability.

The 1,600 m² design has been centred around a conceptual 'big tent' festooned with scout 'neckerchiefs' made from coated polyester panels. The 'tent' will be connected to a timber clock and bell tower and stretched over the site's central gathering space at Camp Square. The scheme also includes an exhibition space, a climate-controlled archive store and a cafe and shop.

The facilities are set to become "a celebratory and fun focal point" at TSA's HQ at



Gilwell Park in Chingford, east London, where scout leaders had been trained since 1919. Lead architect Jerry Tate said: "The concept is to provide a space for celebration – a place that is rooted in Scouting history, but also looks towards its future. The new Camp Square will be at the beating heart of Gilwell Park and the Scouting movement, and will reflect the energy and diversity of Scouting in the twenty-first century".

The project is scheduled for completion in 2020.



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VIEW POINT



Sonal Rathod from PLP comments on the impact that Brexit is having on the firm, which currently employs a large number of EU staff

E mployees from the EU bring a breadth of international experience and different schools of thought to the architectural process at PLP. The practice as a whole comprises 45 different nationalities, and EU employees represent a large proportion of this. They are invaluable members of staff, constituting just under a half of our entire UK workforce.

The initial reaction to the Brexit vote among staff was shock, disappointment and confusion; "What did it all mean?" was the question I was asked repeatedly by staff members. Not only were EU-born staff expressing surprise and shock, UK employees were similarly dismayed.

In terms of practical dangers for the firm however, Brexit would potentially mean losing good talent – we have such a talented group of individuals that all contribute to the success of what we do. For individual employees, many of whom have now built a career and a life here in the UK, Brexit throws up a host of uncertainties as to what the future holds for them and their families.

Despite this, a few months down the line and staff seem to be getting on with things with a quiet optimism, which is great to see. We reassure staff; we communicate effectively and stand ready to help staff once there is a clear picture of what will happen.

While there have been no real assurances made by central Government in pre-Brexit negotiations with respect to EU nationals working in the UK, the London Mayor seems to be keen on London workers obtaining a special provision which has been encouraging to read about. Despite his discussions around a possible London work permit system with key figures in the Brexit team such as David Davis and Boris Johnson however, it looked early in 2017 from Government comments that it was resisting regional exemptions to policies. William Hague has suggested a simple work permit scheme for EU nationals. Under his plan any EU citizen with a job offer in Britain would qualify for a work

permit. There would be little or no welfare support but the freedom to work in Britain would be retained. Theresa May is said by Ministers to favour the idea of a work visa. I would have hoped she would be backing such an initiative or at least confirming that EU nationals employed here will be safe. Some degree of re-assurance from the Government would be welcomed.

Yes, there are many who thought Brexit was a good idea. We respect that they are entitled to their opinions and that they are determined it will work for them. Yet, I highly doubt that the Government's discussion of a possible interim position will mean 'no exit for the forseeable future'. I don't think that will be the case, despite it being somewhat protracted.

Planning for unforeseen consequences

Here at PLP we are attempting to plan ahead in order to try and cope with what Brexit is likely to mean for staff. We have identified three immediate priorities:

- Help the business create a positive mind-set to take advantage of the opportunities that arise. Develop a proactive communication strategy, and provide a channel for employees to share concerns. Reaffirm our company values of openness and inclusiveness.
- Address the 'here and now' issues. Assess how economic volatility is affecting incentive targets, and decide what action is needed. We will provide reassurance to employees where necessary, including help in dealing with practical concerns like residence applications.
- Look longer term: e.g. understanding how immigration policy could affect our talent pipelines; reviewing the impact of any business moves and how our employee value proposition may need to change. Getting educated about the implications of Brexit is key as is being prepared to participate fully in scenario planning.

The end to the current level of freedom of movement (FOM) presents two immediate talent and labour market issues to consider. The first relates to existing EEA/Swiss nationals working who will need a clear communication strategy and who may need to formalise their existing rights to ensure they benefit from any transitional arrangements agreed as part of the UK's exit negotiations with the EU. The second is the impact on the resource pipeline when FOM ends. This will impact both low and highly skilled individuals and also UK nationals who need to travel into the EU for business travel or on a longer term basis.

We will identify groups that are potentially impacted by changes in FOM by communicating with all employees, providing reassurance to impacted individuals, and evaluating alternative talent sources outside the EEA including the additional cost implications such as that of visas. We will also consider a policy of supporting residence applications for EEA/Swiss nationals to demonstrate they have been exercising their treaty rights under EU law.

As time has passed, PLP has moved on from the shock of the referendum result and we are looking to the future. Our experience is that we are adaptable and we will now focus on how to make the most of the opportunities that Brexit creates. HR has a crucial role to play in helping get management and the wider workforce energised and focused on the right issues, and also in implementing a strategy where people issues rank highly among the practical implications. PLP has always benefitted from EU and other international staff. These employees contribute invaluable knowledge and skills, and we do feel there will be a 'talent hole' if we were to lose our EU staff. It may not stop the projects as such, but it will hinder the expertise or talent pool which we may not be able to find elsewhere.

Sonal Rathod is HR manager at PLP Architecture



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ASK THE EXPERT

ADF put readers' questions on the specification of timber to Michael Allen, specification sales manager at Silva Timber (favourite building – St Peter's Basilica, Rome)



THE CUTTING OF WHAT TYPE OF TIMBERS HAS A DETRIMENTAL EFFECT ON CLIMATE CHANGE?

The cutting down of any timber affects climate change however there are misconceptions that cutting down trees only has a negative effect on the environment. Older trees that are cut down or left to die actually emit CO_2 from the stored carbon, if these trees are harvested before this stage the CO_2 will be stored within the timber for the life of the wood product.

By ensuring you purchase timber that has been sourced from responsibly managed forests you are guaranteeing that any harvested trees have been replaced with saplings. Young trees actually grow faster and therefore absorb more CO_2 , meaning that sustainably managed forests absorb more CO_2 without causing or contributing to deforestation.

WHAT ARE THE RECOMMENDED AREAS OF USE FOR TREATED TIMBER?

When referring to treated timber, there are five main categories, which are defined under British Standard BS EN 335-1. These are as follows:

- UC 1 Internal, dry (e.g. upper floor joists)
- UC 2 Internal, risk of wetting (e.g. tile battens)
- UC 3 coated Outdoors, coated, above ground (e.g. soffits/cladding)
- UC 3 uncoated Outdoors, uncoated, above ground (e.g. cladding/fence rails)

• UC 4 – Direct soil or fresh water contact (e.g. fence posts).

The classes used are based on the potential threat to the timber from decay or insect attack in its application and lifespan. Some suppliers do not publicise what class the timber has been treated to, so always ask.

CAN I BE ASSURED THAT CONTEMPORARY TIMBER CLADDING AND SHINGLES, PROPERLY INSTALLED, WILL HAVE A SUFFICIENTLY LONG ENOUGH LIFE IN SITU TO WARRANT THEIR USE AS A BUILDING MATERIAL IN WET AND DAMP CONDITIONS, IN RELATIVELY FROST-FREE PLACES SUCH AS IRELAND?

Think of homes clad with cedar shingles along the West coast of Canada or the typical Scandinavian timber weatherboard buildings – right there you have examples of timber standing up to harsh weather conditions. Here in the UK there are numerous examples of timber cladding that have been around for decades. It is possible to extend the performance, appearance and service life of the wood by applying a finish at the outset.

HOW CAN I BE SURE THAT THE TIMBER SPECIFIED COMES FROM A SUSTAINABLE SOURCE AND/OR MANAGED FOREST?

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amount of companies making claims they are providing sustainably sourced products. By using FSC paper with the logo on to print invoices, delivery notes etc, many companies can exploit the system by making it appear that their products are certified, when in fact it's just the paper that is FSC certified.

There are ways to check that what you are purchasing is sustainably sourced. Firstly any company claiming to sell FSC or PEFC products will always have a certificate in place – you can check certificates on the FSC or PEFC database.

Secondly any products that claim to be FSC or PEFC certified must feature the logo or state the fact next to each relevant product on the delivery note and invoice.

It is possible for products to be sustainably sourced even without the FSC or PEFC certification. There are many other schemes that companies can be a part of – The EUTR (European Directive) and BM TRADA Forest Products Scheme. Companies selling sustainably sourced timber will always be happy to discuss their procurement policies.

The FSC list of certified suppliers http://www.fsc-uk.org/database.150.htm and the PEFC at www.pefc.org/find-certified/certified-certificates.

HOW LONG CAN TIMBER BE GUARANTEED PROTECTION IN OUR CLIMATE?

Each timber species will have its own approximate lifespan, so it's always worth checking with a supplier. There are timber buildings all over the globe that have stood the test of time for hundreds of years, the oldest existing wooden buildings are in China and date back to the mid Tang Dynasty (618-907).

Some of the most popular timber species for commercial applications include Western Red Cedar which can last over 60 years if installed correctly, Siberian Larch which can last over 50 years and ThermoWood, which has an expected life cycle of 30 years (60 years if finished and maintained). I would always recommend finishing your timber to not only enhance its beauty but also extend its life. There are specialist wood finishes on the market such as Sansin Enviro Stains which penetrate into the timber so will never peel, crack or blister and are long lasting and easy to maintain.

WHY AND WHEN SHOULD I CONSIDER USING TIMBER FOR CLADDING?

Timber cladding has been used successfully on all types of buildings from homes to commercial offices, supermarkets and public spaces.

The possibilities are endless, there are many species available including Western Red Cedar, Siberian Larch, ThermoWood, Accoya and Oak.

Timber not only contributes to a building's sustainable footprint but it also offers one of the most flexible options out there. Various different profiles and surface textures are available, each giving a subtly different look. Plus, using a finish you can select a colour that perfectly suits your project.

TIMBER DECKING - WHEN SHOULD I SPECIFY THIS AND WHEN SHOULDN'T I?

There is a common misconception that the applications for timber decking are limited however timber has been used in harbours, ski resorts and high traffic areas in some of the harshest environments on the planet.

Decking only becomes slippery when wet when it has been neglected and mould or algae has been allowed to grow on the surface. This can easily be prevented by applying a finish at the outset and periodic cleaning/maintenance.

PRACTICE PROFILE

Pellings

Norman Hayden traces the growth of a practice with a well-defined design vision, and a clear focus on balancing affordability with functionality and beauty



Goat Lees Primary, Ashford: design responding to local urban fabric

A rchitects tend to project their vision slightly cryptically across their branding, so it's somewhat unusual that south eastbased Pellings prefers to focus on providing answers instead. "We are not about selling clients our vision", explains partner Neill Werner. "Rather, we are focused on finding the right solution for them." Indeed, Pellings has gone so far as to encapsulate its whole design philosophy in the phrase: "Your vision. Our solution."

The multi-award winning practice, which began life as a small surveying firm in Bromley in 1977, has grown to become a major integrated design, property and construction consultancy and established a big reputation for its work in the education sector.

As well as its Bromley headquarters, the 110 staff are based across the wider London area in Barnet and Waterloo and in Walton-on-Thames, Surrey.

Alongside Werner, who is head of architecture, are fellow LLP members Richard Claxton, chairman, Alan Davison, head of building surveying (Bromley) and David Smith, head of building surveying (Barnet).

In considering the Pellings' approach, Werner identifies the need to gain a deep understanding of the needs of both the clients and the ultimate users of the building.

"This includes all the 'bigger picture' issues, of which the budget is often a major element," he says. "Many of our clients are publicly funded and we apply our skills and creativity to design high-quality, functional buildings within extremely demanding constraints."

The company undertakes a variety of commissions which include the design and delivery of: nursery, primary and secondary schools, higher and further education buildings, large residential developments for affordable housing providers, mixed-use town centre schemes, older-persons' accommodation and private sector housing.

Two major projects clearly reflect the Pellings portfolio. Goat Lees Primary School near Ashford, Kent is a new build single-storey building, which was overall project winner in the Kent Design & Development Awards 2014.

The facility was of a contemporary design, with two distinct wings, which responded to the local urban fabric. It also drew on the materials and scale of the surrounding properties, while creating a focal point for the local community.

The Goat Lees design emerged from the findings of a





We apply our skills and creativity to design high-quality, functional buildings within extremely demanding constraints

Neill Werner, head of architecture at Pellings

St Clement's Heights, London: flats, apartments and town houses

consultation group comprising seven local headteachers. At the same time, consultation with residents reinforced the community connection.

The other key project is the St Clement's Heights, Sydenham, south London development in collaboration with housebuilders Crest Nicholson.

It is replacing 50 sheltered housing flats on behalf of the St Clement Danes Holborn Estate Charity with 50 new build supported-living flats, 26 private apartments and 20 town houses in Sydenham Hill.

Other major projects by Pellings include Willow Dene School, Greenwich – a new build and part-refurbishment – and Bonney Court for West Kent Housing Association, a new build housing development for older people. Both were RICS-shortlisted for the 'Design Through Innovation' award in 2015 and 2016 respectively.

The St Mary Magdalene primary school in Woolwich was runner up at the RICS Awards 2012, and highly commended in the BCSE Awards 2012.

This building, exhibited as part of the Architectural showcase 'Open House London' in 2011 and 2012, has given the practice a lot of satisfaction. "Making a difference to clients and communities is also important and school design is a great way to achieve this," says Werner.

"The new school replaced a Victorian building, no longer fit for purpose. A key aspect of the brief for the school, situated in one of the most deprived boroughs in London, was to strengthen its identity within the local community and provide long-term benefits to the area. To achieve this, we used a robust design that incorporates 'playdecks in the sky', providing external play space on four levels of the building."

But, satisfaction comes at other levels, too, for Werner. "Being part of a successful business is very satisfying and we have seen turnover and staff numbers grow consistently each year since 2009."

"This means that we can invest in technology such as BIM and give staff opportunities. Several team members, who joined as graduates or assistant architects, have developed fairly quickly into highly-skilled project and team leaders and that's very positive for everyone."

What are the biggest challenges facing Pellings at present?

"Clearly, one challenge is to continue delivering the fundamental needs of our communities – places to live and places to learn, and the financial and resource implications of this," says Werner.

"Whether it is creating new homes on tight urban sites, addressing steeply sloping topography, dealing with local residents and town planning departments, or finding ways to reduce cost without removing functionality and beauty, the challenges keep coming."

He adds: "Ultimately, like politics, architecture is the art of the possible and delivering a creative, buildable, affordable solution that is sustainable over the long term must be the goal."

Looking ahead, Pellings believes that spending on infrastructure is a key factor if communities are to flourish in the long-term.

"I am optimistic that architects can make a positive contribution," Werner insists. "Pellings largely operates in London and the South of England and the pressures of population growth and demographics mean that our clients are generally very open to creative thinking and innovation that unlock projects and add value."

Thinking creatively across the spectrum of client assets is fundamental to Pellings' approach.

"For example, for an almshouse charity client [the St Clement Danes project] who initially wanted us to address leaking roofs, we have created a new multi-generational development, funded through private residential sales. This creates a legacy of high quality homes for 50 older residents and puts the charity on a sound financial footing going forward.

"The project took six years to reach fruition, but demonstrates what can be done with holistic thinking, tenacity and skill."

Pellings enters 2017 in good shape and focused on finding the right answers for its clients. \blacksquare

FACTFILE: PELLINGS

- Founded in 1977 in Bromley, Kent
- Approx. 110 staff based in four centres
- Operating in London and south east
- Award-winning projects
- · Specialist in education sector
- Turnover growth each year since 2009



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SITE LINES

Predictions of success

James Parker uncovers how the predictable quality offered by off-site construction using timber is being seen as a key part of solving the housing crisis

odular construction is the hot topic currently, against the backdrop of the need to increase levels of building to tackle the housing crisis.

It's widely held that traditional methods are alone unlikely to deliver on the 200,000 homes a year the Government has promised. Housing Minister Gavin Barwell put his weight behind the benefits of using off-site 'modern methods of construction' in September last year, when he visited a development of concise homes by Pocket in Lambeth, saying it was a "great example" and he "hoped that more developers would follow their lead."

The world of CLT (cross laminated timber) however has been making inroads into new approaches to housing for some time, with its unprecedented ability to create multi-storey buildings chiefly of timber thanks to the material's dimensional stability and lack of shrinkage or movement post-construction. Finished in November 2010, Bridport House in Hackney is a social housing scheme that was a major coup for the advancement of CLT, as the UK's tallest timber building at eight storeys. Designed by Karakusevic Carson Architects, it was built in 12 weeks by Wilmott Dixon using a timber system from Scandinavian firm Stora Enso.

And as architect Rory Bergin of HTA recently reported in ADF following a visit to Legal & General's new £50m factory in Yorkshire, that company is an example of a major player in the housing market investing heavily in CLT as an alternative solution to delivering the huge numbers of homes that are needed.

However, it's not just about the speed of assembly which is possible – further helped by factories' ability to assemble panels for houses in all weather conditions, 24 hours a day. Off-site modular construction can, many believe, also deliver higher levels of consistent quality than is commonly seen across the volume housebuilding sector.

With increased density requirements meaning that multi-storey is the only sensible answer in urban areas, CLT is now being seen as a realistic solution. Not least because of the thermal and acoustic insulation benefits it can bring, in addition to its low carbon credentials, factory-made precision, and design flexibility.

Innovators in CLT include Carbon Dynamic, whose breathable system of rigid wood fibre boards and continuous CLT panels is produced to exacting standards in the company's factory in Scotland.



Puukuokka, an eight-storey modular CLT apartment building in Finland by architects OOPEAA, has been shortlisted for the Mies Van der Rohe Award

The firm claims to offer a very straightforward, collaborative approach to clients, and provided vapour barrier benefits as well as avoidance of thermal bridging at Scotland's first modular affordable housing scheme, Kendall Court in Alness.

At the end of 2016 CLT producer Stora Enso launched its Modular Building System at an event in London, as a free resource following on from its earlier residential-specific Multi-Storey system launched in April. This was a clear sign the company believes that there is sufficient interest in CLT to justify investment in a full-blown system – and accompanying manual – including structural calculations, design and installation considerations, and country-specific regulations compliance.

The firm's business development manager Gareth Mason spoke at the event, placing the potential offered by CLT as well as thinnerlayered LVL (laminated veneer lumber) in the context of last year's Farmer Report which challenged the construction industry to "modernise or die."

He pointed out that Mark Farmer's report, for the Construction Leadership Council (CLC) recommended that the Government "should act to provide stimulus to innovation in the housing sector by promoting the use of pre-manufactured (offsite, modular and volumetric) solutions through policy measures."

Mason also held that CLT was the "quietest form of construction" making it particularly useful on sensitive sites, but showed that overseas projects are leading the way. In Vancouver a 53 metre, 18-storey CLT block for the University of Columbia has completed four months ahead of schedule, and Lend Lease's International House in Sydney is Australia's first engineered timber office building – a stunning glass and timber showpiece. Mason concluded by saying that the "advantages of the material are known; it is now a question of how to design and plan using it, and doing the feasibility."

Finnish quality

Nordic countries have seen strong innovation in modular timber across a range of building typologies. Finnish architectural practice OOPEAA designed the Puukuokka social housing building in the west of the country as Finland's tallest residential timber construction, thanks to the qualities of CLT. The larch and spruce-clad scheme for housing association Lakea won the Finlandia architectural award in 2015, and has been shortlisted for this year's Mies van der Rohe Award. Each apartment is composed of two modules, one housing the living room, balcony and bedroom, the other – the bathroom, kitchen and foyer, and thanks to the Stora Enso CLT modules being the primary structure, no columns are needed.

OOPEAA's Anssi Lassila is firmly wedded to using CLT and LVL timber in a wide range of sectors, particularly with acoustics standards being tighter in Finland compared to the UK as well as sustainability being a key requirement for many projects. He told attendees at Stora Enso's launch event: "It works as a construction material not just as decoration. But it helps create a better atmosphere that feels like home.

"It's natural but it's also about the fact these apartments need to last for 35 years and there are problems with concrete and steel." Storage of CO_2 is also a big factor with choosing wood, he said: "About 60 per cent of the CO_2 emissions in a building are in the construction phase and 40 per cent over its life. And in a concrete building the material accounts for about 20 per cent of the CO_2 emissions."

Lassila also emphasised the benefits of modular and volumetric construction as a way of quickly alleviating housing shortages: "The modular process is very short – it took only six months to build 70 apartments at Puukuokka, and it is faster to take down than any other building solution" he said. "This means it is possible to transport these buildings and reinstall them in a different location in the future if they are no longer needed for their present use." He also alluded to some of the key requirements for constructing with CLT to optimise its benefits, such as having "separate wet and dry elements."

He explained that the project's energy efficiency is benefitted as the separation that the timber modular elements provide means "a hallway can be colder without making the apartments cold – different temperatures can be maintained."

Lassila said that while the acoustic qualities of the material in use at Puukuokka had been borne out, with some "very good feedback from residents," the possibility exists to develop "even more flexible and diverse modular systems in the future." Concluding, he said "Now is the time for timber."

Swan dives into CLT

It is not just happening in enlightened pockets of the world however. The UK is beginning to catch on more widely, for example social housing provider Swan Homes has taken up the gauntlet and decided to build its own CLT factory to produce family houses in Basildon, Essex. Paul Williamson, managing director of modular construction at Swan Homes, spoke at Stora Enso's event at the end of last year, hinting that the organisation has ambitions to go higher.

He told attendees: "We started looking at modular construction in 2014 to help us meet growing demand for homes in the south east



The modular process is very short – it took only six months to build 70 apartments at Puukuokka

Anssi Lassila, architect, OOPEAA

and decided on volumetric CLT because we wanted a system that could deliver homes from one storey all the way up to 12 storeys."

Williamson added: "With CLT we can, relatively easily, produce thermally and acoustically efficient homes. Also, the fact the material is sustainable and able to be recycled is key to our sustainability agenda. He said that with Brexit "likely to make labour shortages worse, certainly in London," the ability to produce homes in a factory was even more important.

He admitted that CLT "does have constraints, like other materials, you just don't think about it with them as we've been using them from day one." He concluded: "One of the major benefits for us is that CLT is easily machinable and that allows us a great deal of flexibility in the manufacturing process. We were always keen not to have the tail wag the dog, we want an architectural solution that has an engineering solution worked around it."

There may remain a number of cultural challenges to address before CLT timber buildings are widely accepted in the UK, particularly for medium-rise developments, but major forces are mobilising to increase its presence in the market. While QS' may still be reluctant to exchange steel and concrete for timber, when the cost benefits in the construction phrase – alongside the quality benefits – become more widely demonstrated they will have to sit up and pay attention.

FACTFILE: PUUKUOKKA, FINLAND

Location: Jyväskylä Architect: OOPEAA Number of storeys: Eight Load bearing structure and frame: Prefabricated volumetric CLT modules Floor area: 14,000 m² (70 apartments) Completed: 2015 (six month construction period)

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NEW ARRIVALS

Rounding up the latest movers and in-house appointments across the industry



TRIO COMES TO LONDON HOK

HOK appointed two experienced professionals and made one in-house move to bolster its London office. Chris Fannin has moved from HOK's Hong Kong base and will spearhead the London planning team as director of planning and senior vice president. Lee Daniels was appointed regional lead of consulting in EMEA, while David Weatherhead has joined as senior project director. Daniels will draw on over 16 years' experience in property and facilities management, strategic planning, business development programmes and workplace design, while Weatherhead, former leader of Weatherhead Architecture, is bringing his expertise in designing projects for healthcare, commercial, education and residential markets.





CHRIS O'HANLON & DAVE JONES CASSIDY + ASHTON

Two new architectural technologists experienced in Revit and BIM have joined Cassidy + Ashton's Chester office to service the increasing demand for public funded BIM Level 2 projects. Chris O'Hanlon has 19 years experience having spent the majority of his career in North Wales after completing a HNC in Construction at Yale College, Wrexham. Dave Jones is pursuing an MCIAT status having already graduated from Architectural Design & Technology at Cardiff Metropolitan University. He delivered BIM Level 2 education projects though out Wales and the London Boroughs in addition to small extensions and multi-block housing schemes with major developers.

FOUR NEW RECRUITS PELLINGS

Following on from the appointment of Nicolas Maari as partner and head of architecture in December, design, property and construction consultancy Pellings has recruited three more architects – Davide Capello, Annie Lieu and Cristina Izcara – to boost the firm's residential sector expertise. Capello joins from Milan Babic Architects as senior architect and will spearhead all residential sector projects at Pellings' Bromley office. Lieu, previously at LOM Architecture, will be senior architect on the same team while former BDG employee Izcara is also joining the residential sector team as architect.



STEPHEN WORKMAN ATKINS

Stephen Workman has joined Atkins as head of residential in London. A registered architect with 10 years' experience, Stephen has previously worked at Scott Brownrigg, Allies and Morrison, and Benoy and was predominately involved in residential and mixed-use schemes. His portfolio includes work on St Andrews Bromley by Bow and Barrier Park East, as well as a number of complex schemes involving heritage assets, such as Kidderpore Avenue. He jointly led the design review and research process at his previous practice, as well as being a visiting design tutor at Nottingham University for a number of years.



BEN LEWIS ECKERSLEY O'CALLAGHAN

Ben Lewis has changed firms but not roles, becoming Eckersley O'Callaghan's new associate director having previously held the same position at Arup. He will be based in the London office of the firm, which he described as "one of the most innovative and dynamic design engineering teams of this generation". In his previous role, Lewis was involved in major projects in the Middle East, Asia and Europe, working alongside the likes of Zaha Hadid Architects, OMA, Grimshaw, Renzo Piano Building Workshop and Foster + Partners. His portfolio includes Centre Pompidou-Metz, Dongdaemun Design Park and Blox-Bryghusprojektet in Copenhagen.

INTERNATIONAL FOCUS

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



SHANGHAI LIBRARY, CHINA SCHMIDT HAMMER LASSEN

Schmidt Hammer Lassen Architects has won the commission to create a glass library that will become "the focal point" in Shanghai's largest city park. The architects saw off competition from Kengo Kuma, David Chipperfield and Dominique Perrault to design the abstract facility, which will be clad in clear, insulated and fritted glass arranged in horizontal bands that are angled to minimise solar glare and reflect the surroundings.

Located in the 140-hectare Century Park, the library will "float" above the tree canopy and over two pavilions housing a 1,200-seat performance venue and a children's library. The building will be organised around a grand central atrium with three staggered reading rooms connecting various parts of the library. Once completed in 2020, the 110,000 m² facility will complete a trilogy of cultural projects in the Pudong district including the Shanghai Oriental Arts Centre and the Science and Technology Museum. **Ref: 71379**



VARSO TOWER, POLAND FOSTER + PARTNERS

Foster + Partners is delivering a glazed 53-storey tower located in the heart of Warsaw. Varso Tower will boast flexible workspace, commercial units and an observation deck for tourists in the centre of the capital.

The 310 metre facility will be the highest building in Poland once completed and the first project of this scale to be rated BREEAM 'Outstanding' in the country. Varso is part of a wider development comprising two other office buildings designed by Hermanowicz Rewski Architects that will "cascade" from a joint multistorey podium. The project will revive a brownfield area in the capital near the main railway station, with completion scheduled for 2020. **Ref: 87464**



KING FAHD STADIUM, SAUDI ARABIA Schiattarella Associati

Schiattarella Associati has been awarded a contract to refurbish the 50,000-seat King Fahd International Stadium in Riyadh, Saudi Arabia. The Rome-based architectural practice will create an artificial 'hill' at the base of the stadium and will also refurbish the ground's West Stand. The hill will house 1,000 parking spaces underneath and provide direct access to the West Stand. The new structure will boast a lacerated design to allow natural light into the underground levels.

Ref: 49412



POWERHOUSE, NORWAY SKANSKA

Skanska Norway will build the world's northernmost energy-positive office building at the waterfront of Brattørkaia in Trondheim, Norway. Powerhouse Brattørkaia was designed to achieve the highest environmental certification – BREEAM NOR 'Outstanding' – and will produce more clean and renewable energy than necessary for its construction, operation and disposal. This will be achieved through optimal use of sun and sea water for heating and cooling, as well as an extremely low energy consumption. Construction will start in April and the office building will be completed in February 2019.

Ref: 63530



YVES SAINT LAURENT MUSEUM, MARRAKECH, MOROCCO STUDIO KO

The new Musée Yves Saint Laurent Marrakech will open its doors in autumn 2017. The new building has been designed by the French architecture firm Studio KO and will span over 4,000 m² and is more than just a museum. It features a 400 m² permanent exhibition space. From the outside, the building is composed of cubic forms adorned with bricks which create a pattern resembling threads of fabric. The inside is markedly different, "like the lining of a luxurious couture jacket." Built of terracotta, concrete and an earthen coloured terrazzo with Moroccan stone fragments, the building blends harmoniously with its surroundings.

Ref: 92153



LEAF ACADEMY, SLOVAKIA BOGLE ARCHITECTS

Bogle Architects won an international competition to design a new boarding school for LEAF Academy near Bratislava, Slovakia. The new campus, which will be built on former farmland in Vistuk, has been designed "entirely contemporary in feel" and is set to become a "sensible addition to its agricultural setting" according to Bogle Architects director Barbora Markechova. Bogle used Passivhaus design solutions including passive solar gain and natural ventilation throughout the scheme, and some of the buildings have been created to achieve a BREEAM 'Outstanding' certification. The campus will include four blocks with farmstead-inspired pitched roofs providing student dormitories and teacher accommodation, and five learning facilities arranged around a public square. **Ref: 15907**

CPD FOCUS

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Quantum Flooring Solutions' CPD looks at the guidelines for the specification of a safe stairway. The presentation deals with the subject of how to make commercial stairways safe and meet with all current building regulation guidelines. The CPD presentation includes: What stair nosings are designed to achieve and how to select the right one; Key Legislation and Industry Standards; How recent BRE and Equality Act (Formally DDA) guidelines affect specifications; Environmental and Health and Safety considerations; Examples of best practice. The seminar lasts 45-60 minutes including time for a Q and A session. All seminars are part of the RIBA core curriculum syllabus. 0161 627 4222

www.quantumflooring.co.uk

NEW AIRTIGHTNESS SEMINAR FOR ARCHITECTS



Architects can take advantage of a new initiative from tape sealant specialists ISO-CHEMIE, which explains airtightness in construction sealing joints and options for its improvement. The seminar has been designed specifically to advance architectural knowledge and understanding of airtightness and related issues, enabling architects to improve the design and construction of buildings and boost their technical and product expertise. Delivered onsite within the practice, the one-hour long programme covers advice on effective installation techniques. 01207 566867 www.iso-chemie.co.uk

TWO NEW RIBA ASSESSED CPD SEMINARS FROM COMAR



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

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Tridonic, a leader in the provision of LED lighting control and technology, has announced the availability of three new CPD modules. This brings the total number of modules available to nine, all of which have been certified by CIBSE. The company is currently offering the chance for architects and specifiers to book their staff on to one or more these modules free of charge. Any organisation interested in taking up this offer/booking modules should contact Tridonic directly. The three new modules are: Emergency Battery technology; LED handling and precautions and LED Terminology. 01256 374304 www.tridonic.com

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UNDERSTANDING MECHANICAL VENTILATION WITH HEAT RECOVERY FOR COMMERCIAL APPLICATIONS



The seminar 'Understand the importance of effective ventilation in the commercial environment' from Airflow Developments Ltd guides the participant through the need for better indoor air quality in the UK and the benefits improved indoor air has on the inhabitants and the fabric of the building. Understand the technical aspects of a whole building approach to ventilation and the energy savings that can be achieved by implementing a ventilation strategy in commercial buildings that encompasses Mechanical Ventilation with Heat Recovery (MVHR). By explaining the principles of operation variants in equipment design, the drivers encouraging specification and the regulatory landscape, including European ErP legislation and its future, and Passive House approval, the participant will learn and understand the features and benefits that this technology can delivery for their projects. Studies have found that improving indoor air quality through providing fresh, clean, filtered, warmed air also has a positive benefit on productivity and occupant wellbeing, including reducing the symptoms of respiratory issues such as asthma. Using MVHR as part of an integrated ventilation system also helps the building to be assed to BREEAM, the most widely used environmental for new buildings. 01494 525252

www.airflow.com

THREE CPDS FROM THE MCRMA



The MCRMA has launched an online CPD programme. The three CPDs cover wind loadings on roof and wall cladding; snow loading on cladding and the installation of side rails and purlins. Each CPD has been accredited by the CPD Certification Service. The CPD programme is open to anyone seeking to develop their knowledge and skills within the metal building envelope sector. Each module also offers members of professional institutions an opportunity to earn 60 minutes of credits towards their annual CPD requirement. 01633 891584 www.mcrma.co.uk

VENTILATION FOR PITCHED ROOFS



Hambleside Danelaw's recently approved RIBA CPD seminar analyses the importance of adequate roof ventilation with a particular focus on pitched roofs. The seminar covers a variety of product applications and selections to combat any potential condensation issues, delving further into types of condensation, which sometimes can be extremely costly. The CPD guides architects and specifiers through recognised British Standard Codes of Practice to guarantee compliance. The seminar identifies a variety of locations on a pitched roof where air can be introduced, products suitable to fill this void and the importance of roofing underlay types. 01327 701 900 www.hambleside-danelaw.co.uk

SPECIFYING HARDWOOD TIMBER DOORSETS



Urban Front offer a RIBA certified CPD: Specifying Hardwood Timber doorsets which has been updated for 2017 to include for changes in building regulations and to include the more complicated fitting of timber doorsets into frameless and architectural glass. The CPD aims to educate specifiers on all the aspects of fitting hardwood timber doorsets into various private and commercial dwellings. Urban Front also have RIBA certified blogs which you can find on the RIBA website and on Urban Front's website. To make a booking please call Urban Front. 01494 778787 www.urbanfront.co.uk

EDUCATION CPD LAUNCHED BY FERMACELL



A RIBA-approved CPD which details how gypsum fibreboard out-performs other partitioning boards has been launched by Fermacell. The 45-minute presentation is designed to help architects design more cost effective, low-maintenance and high-performing partitions, understand materials for sustainable education construction, recognise and understand the true maintenance costs of an education building and how better building materials can reduce them in the long term, and how to maximise a project's performance without compromising quality. 0121 311 3480 www.fermacell.co.uk



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RENEWABLE ENERGY

Government backs plans for tidal lagoon in Swansea Bay

Plans for the world's first tidal power lagoon have been backed by Ministers. The scheme, on which LDA Design are masterplanners and lead designers, is to "spark the regeneration of Swansea Bay," as well as generating clean energy from tidal movement.

LDA Design has included "visionary placemaking infrastructure" in the masterplan including a new maritime park with sports facilities and public realm linking to the city centre. It's being hoped the project will "unlock" multi-billion plans for five additional plants that could provide a tenth of the UK's electricity needs.



AIRPORTS

Heathrow appoints Benoy

Global design firm Benoy has been appointed to the commercial masterplanning team working on the Heathrow Airport expansion.

The company will support lead architect Grimshaw in delivering "site-wide enhancements" across all five terminals – set to be extended to six with the addition of the airport's third runway.

Benoy CEO Tom Cartledge said: "We are committed to seeing Heathrow continue to become a fully integrated and sustainable airport, which will drive innovation and showcase the best of British design, and we can't wait to get started."

Barry Weekes, head of design at Heathrow Airport, added: "We are very pleased to welcome Benoy with their commercial masterplanning expertise to our design team, and know they will add value and experience to our ambitious design and engineering schedule."

In 2016, Benoy vied for the concept design commission of the extended airport alongside Zaha Hadid Architects, HOK and the eventual winners Grimshaw.

AWARD

4 UK schemes up for Mies van der Rohe Award

Flats for homeless people, a housing development on the site of a 1980s clinic and two estate regenerations make up the UK entries shortlisted for the 2017 European Union prize for Contemporary Architecture – the Mies van der Rohe Award.

The long list of 356 projects (including 19 from the UK) was reduced to 40 in January, and the winner of the biannual prize will be announced in April.

The UK schemes shortlisted are Holmes Road Studios, almshouseinspired studio flats for the homeless in Camden designed by Peter Barber Architects; Jaccaud Zein Architects' housing development Shepherdess Walk, created on the plot of the UK's first HIV clinic in Old Street, London; Alison Brooks' 43-home Ely Court which forms part of the South Kilburn estate regeneration; and Assemble's Granby Four Streets, a holistic refurbishment of four streets of Victorian terraces in Liverpool.

New Exeter benches for roof top terrace



The new seven-storey University of Exeter Living Systems Institute was due to be completed in Autumn 2016. Working closely with the contractor, **Benchmark** designed and manufactured a new Exeter range to complement the architecture of

the courtyard roof terrace. Benchmark developed benches that followed the planter retaining walls to create three unique separate spaces where staff and students can sit and enjoy the views. The new range is manufactured from Iroko hardwood with laser profiled aluminium legs. It is assembled using a stainless steel tube system.

info@benchmark-ltd.co.uk

AMWS appoints new manager



Alumasc Water Management Solutions (AWMS), the leading brand in integrated water management, continues to expand its team with the appointment of Eoghan Bridgeman as National Sales Manager for Ireland. Eoghan will be responsible for Alumasc Rainwater, Harmer Building Drainage and Gatic Civil Drainage in the North and South of Ireland. Eoghan joins AWMS with 14 years' experience

as Key Account Manager for a merchant company within Grafton Group, focusing on customer relations and value engineering.

01536 383844 www.alumascwms.co.uk

A. Proctor expands commercial team



The A. Proctor Group, recognised world wide for its extensive portfolio of technically advanced thermal, acoustic and membrane products, is expanding its sales team for the commercial build sector with two high profile appointments, Will Jones as Commercial

Business Development Manager and Adam Taylor as Commercial Sales Development Manager. Keira Proctor, the A. Proctor Group's managing director commented: "I am confident that Will and Adam will both play leading roles in the future growth and development of the group, and its offering for the commercial sector."

01250 872261 www.proctorgroup.com

Saracen increases forward order book



Saracen Interiors has announced an increase of almost 30 per cent on its forward order book compared to this same time last year with almost five million pounds worth of orders coming in within the last few weeks of 2016. With a plethora of contracts scheduled to start in 2017,

from new as well as established clients, the award winning, workplace consultant is on track to demonstrate further continued growth in the coming year. The company saw a climb in its turnover of 10 per cent, over the last 12 months, despite the impact of Brexit.

enquiries@saraceninteriors.com

Remmers triumphs with Flooring Award



Remmers have won the prestigious FeRFA Award for Large Industrial Flooring Project of The Year. The award was given for a joint submission by a Manufacturer (Remmers) and Contractor (IRL Group Ltd), for Project Hercules at CDS (part of the Rolls Royce

Group), Solihull. The advanced aerospace manufacturing, research and development facility has brought together two existing aging facilities into one brand new state of the art building. A total of 9,500m² of resin flooring finishes were successfully installed throughout the facility.

0845 373 0103 www.remmers.co.uk

Polypipe ducting proves a winner



Polypipe Ventilation, manufacturer of market-leading domestic ventilation systems, has been awarded a substantial order for its ducting systems for the new Glasshouse Gardens development in London's Queen Elizabeth Olympic Park.

Polypipe's Domus 204x60mm ducting is the most popular domestic duct profile used in MVHR systems. It is recommended by specifiers and contractors because of its low pressure losses, light weight nature, ease of installation, low profile and precise joints. Domus 204x60mm Supertube ducting comes with a range of accessories.

vent.info@polypipe.com

FDS Consult appoints former Hoare Lea Associate Engineer as London team expands



FDS Consult, one of the UK's leading experts in fire engineering, has appointed Steven Morgan to head up its growing London based team, overseeing a rising number of projects in the capital. Steven joins the company as Associate Director, from international engineering specialist Hoare Lea, and has over 25 years' experience in the industry. Throughout his career as both a fire engineer and Chartered Building Control Surveyor, Steven has provided fire safety advice to designers, contractors, and building operators across all sectors including large residential, commercial and mixed use projects. His new role at FDS Consult will involve overseeing the growing consultant team in London, offering close-at-hand expertise and advice for the company's capital based clients. With an increasing number of residential developments opting for open-plan layouts, there is a greater need for engineered fire strategies that offer an alternative to a standard code compliant approach. This is where the expertise of the team at FDS Consult can add value to a project, by creating a fire strategy that meets the necessary safety objectives without compromising project budgets or architectural aspirations.

01322 387411 www.fdsconsult.com

European Copper in Architecture Awards launched



Entries are invited for the 2017 European Copper in Architecture Awards 18 – a celebration of contemporary architecture with copper and its alloys and an opportunity for architects to showcase their designs. The final deadline for receipt of entries is 30th April 2017 and full details are available at the **Copper in Architecture** website. These biennial awards continue to grow in stature, with over 50 entries representing 17 countries in 2015. They gather together exemplary and innovative uses of copper in the finest contemporary European architecture and bring them to an international audience through a promotional programme. Eligible entries must incorporate cladding, roofing or other prominent architectural elements of copper or copper alloys. Any scale or type of project can be entered, from major landmark buildings to modest installations. A panel of architectural qualities. Judges are generally selected from previous award winners, bringing an entrant's viewpoint to their role. Shortlisted projects will be announced this summer.

info@copperalliance.org.uk www.copperconcept.org

Sika Sarnafil launches BRE certified thermal details

In a move to help specifiers make buildings more sustainable, Sika Sarnafil is proud to announce the launch of its BRE Certified Thermal Details, available to download via its online Sustainability Hub and from the Certified Thermal Details and Products scheme website.

The Certified Thermal Details and Products scheme, run by world-leading building science centre BRE, gives thermal junction details an independent third party assessment, assuring users of the 'as designed' thermal performance. Sika Sarnafil has been working with BRE for the past year to become one of the first flat roofing manufacturers to have its thermal details certified.

Since the introduction of the revised Part L building regulations, which deal with energy efficiency requirements, architects and specifiers are now actively



encouraged to use details with thermal values attached, otherwise they may have to pay a penalty elsewhere.

Easily accessible and straightforward to use, all Sika Sarnafil's thermal details have been redrawn and modernised with values that tie in with the requirements for Part L. The specifier can be confident that all Sika Sarnafil thermal details assessed under the new scheme will perform as described, as well as being of a very high quality.

Becoming part of the Certified Thermal Details scheme is part of Sika Sarnafil's ongoing commitment to promoting positive, sustainable change in the industry, as Sika Sarnafil's Martin Bidewell, technical services manager for Single Ply Roofing, explains: "Recent research has shown that thermal bridging can be responsible for up to 30 per cent of a dwelling's heat loss, which is really significant."

"Independent certification helps to address the problem of this performance gap – enabling us to build better buildings with superior thermal performance, which in turn are better for the environment."

01707 394444 http://gbr.sarnafil.sika.com

New year new brochure from Yeoman Shield wall & door protection



January 2017 will see the release of **Yeoman Shield's** new wall & door protection product brochure. After having celebrated 50 years in the business on 24th November 2016, the launch of the brochure will help to cement Yeoman Shield's position in the wall & door protection industry. Guided by the requirements and wants of their client base, the updated brochure includes full product data & drawings, case studies and vibrant project photography as well as a full colour range chart. Along with 26 original protection products, it will also showcase three newly developed products – The Yeoman Shield Rub Rail, Universal Frame Protector and PVCu or Stainless Steel Footrail. "We are extremely excited about the new brochure launch" commented Marketing Manager, Sally Moores. "There is a wealth of information we wish to convey to our current and prospective customers to reinforce the quality and versatility of our products and services." The brochure will be supported by extensive fixing instructions, technical drawings, new colour cards and swatches along with data details – all available as hard copy or digital versions.

0113 279 5854 www.yeomanshield.com/request-a-brochure

Powdertech Corby now operating chrome-free pre-treatment



Powdertech Corby has made a significant investment in its metal finishing facility by installing a £500K chrome-free pre-treatment line for aluminium and galvanized steel. The new plant will be one of the most up-to-date facilities in the UK, offering fully automated multi-metal pre-treatments. It is operational ahead of the EU REACH legal requirement to end chrome-based processes by September 2017. Using chrome in pre-treatment processes for powder coating is long established but chrome has been identified as a carcinogen. Approximately half of the large architectural plants in Europe now have chrome-free production lines. The chrome-free chemical process has been seven years in development and testing and has been benchmarked against existing technology. Installation of the new plant at Powdertech's Corby base was carried out over the Christmas break in order to minimise disruption to clients. Aside from the obvious health and environmental benefits of eliminating a carcinogen, chrome-free brings important benefits to powder coating systems. Chrome-free technologies pass 3000 salt spray testing; three times that specified in British Standards.

01536 400890 www.powdertechcorby.co.uk

EPIC moves to mobile



Respected industry body, EPIC, is making it easier for specifiers and contractors to access a wealth of information about insulated panel systems with the launch of a new, fully mobileoptimised website. Over recent years there has been a massive increase in the use of mobile

devices to research and view material online. Visitors to the website will be able to read about the benefits and uses of insulated panels, they can download the latest versions of the EPIC Guides such as the regulatory requirements for the conservation of energy, fire performance, and end of life, as well as the Sustainability Charter and Report.

0330 221 0499 www.epic.uk.com

Schueco calls for entries



Leading sustainable building envelope specialist Schueco UK is now seeking entries for the 2017 Schueco Excellence Awards for Design and Innovation, its annual celebration of the very best in building design in Great Britain and Eire. Now in their fourth year, the Awards – which are run in association with RIBA Journal – have won the respect of the UK building industry because of the high quality

of the submissions they routinely attract. The only stipulation for entry is that a project should utilise at least one Schueco system and involve a Schueco UK Partner specialist contractor.

01908 282111 www.schueco.co.uk



Lighting catalogue with style shots available on request

0208 123 7914 modernlightingsolutions.co.uk

Highlighting the best



A biennial awards event which highlights the best of architectural ironmongery is being sponsored for the fifth successive time by

GEZE UK, a world leader in door, window and safety technology. GEZE UK is sponsoring the Winner of Winners award. It will reward entire specification teams – architectural ironmongers and architect – and highlight the importance of the professional partnership between the two disciplines. Nominations have shown architectural ironmongery at its best, enhancing not only the security and safety of the building but also adding to its functionality and longevity.

01543 443000 www.geze.co.uk

Norcros Adhesives strengthens work



In its latest initiative to enhance the environmental aspect of its work, tile adhesive, grout and preparation products manufacturer **Norcros Adhesives** has joined the Supply Chain Sustainability School. Launched in 2012, the Sustainability School is an initiative

designed to promote sustainability in construction supply chains. The School has more than 14,000 members and it provides free practical support in the form of e-learning modules, tailored self-assessment and action plans, sustainability training and networking.

01782 524 140 www.norcros-adhesives.com

Two new Directors welcomed at VEKA



As an industry-leading PVC-U systems supplier, The VEKA UK Group has always been proud to employ the best technical and business minds. The Burnley-based company is now delighted to introduce two new members of the team; Dawn Stockell, Marketing Director and Neil Evans, Sales

Director. New to the fenestration industry, Dawn comes from the electronics sector bringing a wealth of experience. Neil joins The VEKA UK Group from within the fenestration industry, having been Sales Director at VELUX for the past decade.

01282 716611 www.vekauk.com

Microsoft refreshes brand with Signbox



Thames Valley Park, Reading is home to some of the world's highest profile companies, including IT giant, Microsoft's UK headquarters. In 2016, **Signbox** was appointed to undertake a full signage audit across this 200 acre business park. Signbox was tasked with redesigning more than 200 signs with a brand refresh. The brief included external high-level signage, numerous wayfinding totems,

internal reception branding, and an LED illuminated monument sign. All had to meet intelligent detailing that demanded vibrancy with functionality, and precise on-brand consistency.

01784 438688 www.signbox.co.uk

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BUILDING
PROJECTS
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T FONDACO DEI TEDESCHI VENICE

Italian renaissance

OMA's transformation of a former 13th century Venetian palazzo into a department store on the Grand Canal shows how sensitive architectural interventions can successfully respect a multi-layered historic structure. Stephen Cousins reports

The T Fondaco dei Tedeschi, located beside the iconic Rialto Bridge on Venice's Grand Canal, has been referred to as the building equivalent of a historical 'palimpsest,' or manuscript. This is because it incorporates an array of preservation and reconstruction techniques spanning several centuries.

The 9,000 m² building started life as a 13th Century palazzo used as a trading post for German merchants, and was twice destroyed by fires, then rebuilt in its current form in 1506.

The building was converted into a customs house in the 17th century, and significant structural changes were carried out in the 1930s, under Mussolini, to transform it into a post office. In 1987 it was listed as a Monument, restricting permissible alterations.

Fast forward to today and the Fondaco has taken on a distinctly 21st Century guise as a high end department store, occupied by tenants DFS of Hong Kong, its many historic layers exposed to view alongside new architectural interventions and plush interiors.

The large-scale architectural additions and preservation works were carried out by Netherlands-based architects OMA, headed up by founder Rem Koolhaas and partner Ippolito Pestellini Laparelli. The internal retail vision was developed by UK-based Jamie Fobert Architects.

A key aim for the latest reworking of the Fondaco was to demystify the 'sacred' image of a historical building, explains Laparelli: "Historical buildings in Italy are, in the majority of cases, considered immutable monuments to be preserved free of transformation or adaptation. Our project refutes the idea of declaring one







Our project refutes the idea of declaring one phase of the Fondaco's history more authentic than another phase of the Fondaco's history more authentic than another. It makes visible the idea of the historical palimpsest, in many places exposing the accumulation of layered and historic materials, to encourage people to acknowledge it is both historic monument and modern building."

Historic fascination

OMA's fascination with old buildings and the challenges associated with their restoration was first explored in the exhibition 'Cronocaos', for the 12th International Architecture Biennale in 2010.

The design for the Fondaco, unveiled the same year, is the latest in a trio of widely praised renovation and restoration projects carried out by the studio. The Fondazione Prada project in Milan opened in 2015, saw the preservation of a 19th century industrial building, and The Garage Museum for Contemporary Art, in Moscow, opened the same year, comprised the renovation of the 1960s Vremena Goda restaurant, a prefabricated concrete pavilion that had been derelict for more than two decades.

The restoration of the new Fondaco went through an extensive two-year period of structural investigations that revealed a patchwork of historic alterations. The original towers had been removed, and the courtyard was covered with glass in the 19th Century, then in the 1930s the building was almost entirely reconstructed with modern concrete technology.

Regardless of the history of adaptations and the structure's lack of authenticity, it was granted the legal status of 'monument' in 1987. This restricted OMA to a finite number of structural changes including new vertical circulation routes, new entrances from the Campo San Bartolomeo and the Rialto, a new steel and glass pavilion, suspended above a central courtyard, and finally a wooden terrace on the roof providing views over the city.

Most new additions were needed to 'refunctionalise' the building to meet contemporary needs, such as the addition of


a central lift and stair core, and a large feature escalator with wood panelled sides and crimson red steps, which appears to hang in mid air but is actually supported on a steel truss.

"The escalator and lifts are like excavations through the building, through which the existing structure is left naked, rough and brutal," says Laparelli. "As people move through the building they go from areas that are polished and into areas where stratification of layers is exposed." The escalator is visible through a new hole punched through the rear wall of the gallery, intended to create a sense of permeability.

Every proposed alteration was debated at length with the City, fortunately the existing fabric was considered robust enough due to the consolidation process that took place during the 1930s. Some compromises had to be reached along the way. OMA had proposed radical interventions during early stages of design, when knowledge of the existing structure was scarce, such as an escalator running through the courtyard that could be lifted like a bridge to free up the courtyard space for events.

"Step by step we were able to gain back some ground by demonstrating that certain areas of the building were not very authentic but stable enough to support structural changes," says Laparelli.

A plan to reinstate a historic dark red paint scheme on the facade was abandoned when Venice's strict chromatic strategy prevented the use of bright colours. Instead, the red was used on internal plaster walls facing the galleries.

Hovering space

The building's most striking contemporary addition is a Miesian steel and glass ceiling, replacing a 19th Century glass ceiling, that hovers over the central courtyard, and doubles up as the floor of a new exhibition space above.

The ceiling is laid out in a grid of 20 metre-long beams that span from one side of the courtyard to the other, mimickThe restoration makes a virtue of exposing the building's various layers of architectural history





It was granted the legal status of 'monument' in 1987 – this restricted OMA to a finite number of structural changes ing gridded ceilings seen in many historic buildings. The beams narrow at the edges (in section), so that the structure appears to float separate from the edge of the historic cornice. LED lights are positioned between two layers of glass that form the floor of the pavilion, and the ceiling of the courtyard, and help compensate for a lack of natural light in the courtyard on dark days when less light is able to penetrate the glass.

"Visually we wanted to create something that looks like a pure insert, but it that had to adapt to the irregularities of a historic building, which required sophisticated computer modelling of the structure," says Laparelli.

Traditional materials were given a contemporary treatment in some areas. The courtyard floor incorporates blocks of Red Verona Marble and highly durable Istrian Stone, typical to many courtyards and covered passageways in Venice. However, they were laid out in a contemporary geometry of diagonal stripes, rather than the traditional chequerboard design. The use of brass is common to Italian architecture, notably through the work of 20th Century architect Carlo Scarpa who completed several projects in Venice. At the Fondaco, the brass was oxidised to create surface tones of blue, orange or more traditional gold.

"Brass is a common denominator in many parts of the project, in general we tried to tread the fine line of using well established materials in innovative new ways," says Laparelli.

'Brands in boxes'

City authorities required the existing sequence of rooms, along the gallery surrounding the courtyard, to be retained. The preservation laws were so unflinching that a wall built in 1930s at the same location as a wall from the 16th Century had to be treated as a historic wall.

As a result, shops for different brands are all separated by internal walls, and accessed via a single entrance onto the gallery. There are no windows onto the gallery, forcing



brands to come up with creative ways to organise their programme and visibility. This layout is highly unusual for a department store normally associated with open plan spaces and easily visible signage and merchandise.

Conversely, the requirement to preserve the existing windows in the facade helped open up the building to the city, giving shoppers views of surrounding architecture and the sparkling waters of the Grand Canal.

Further spatial constraints came into play when trying to incorporate a plethora of complex M&E systems associated with a department store. Service runs in the ground and third floor commercial spaces are concealed in ceiling or floor voids, but this was not possible on intermediate floors, where instead ducts and cables are exposed as a separate architectural component.

OMA was always keen to create an attractive destination for locals, not just a 'profit generating machine' for tourism. Venice has suffered from a shrinking local population in recent years as a result of tourism and escalating property prices, population levels in the historic island centre have reduced from around 250,000 in the 1960s to just 58,000 today.

"When the client originally approached us, they wanted to transform the Fondaco into a luxury hotel," says Laparelli. "We thought that was a bit of a sad prospect because hotels are purely for tourists and it would have made the building inaccessible for many people. In contrast, the Fondaco has publically accessible spaces, like the pavilion and courtyard used for concerts and exhibitions, and commercial components related to food and crafts."

In this respect, OMA took its inspiration from existing consolidated department stores, like Selfridges, in London, and Le Bon Marché, in Paris. But perhaps the building's current function is not so important, given its long and chequered history, perhaps all that matters is it remains a bold and recognisable presence on the banks of the Grand Canal. Photographs by Delfino Sisto Legnani and Marco Cappelletti, courtesy of OMA

DESIGN TEAM

Client: Edizione Architects: OMA Architect partners: Rem Koolhaas, Ippolito Pestellini Laparelli Preservation architect: TA architettura Interiors architect: Jamie Fobert Structural engineer: Tecnobrevetti MEP engineer: Politecnica Ingegneria e Architettura Fire safety advisor: Sicurtecno Cost consultant: GAD Main contractor: Sacaim Lighting: Viabizzuno

Instarmac to create mosaic masterpiece



A community project headed by mosaic artist, Tracy Cartledge has been completed using Instarmac adhesive and grout. Extended set tile adhesive, **UltraTile** ProFlex SP+ES was used to fix the mosaic tiles creating a piece which was inspired by a Bible passage centered upon the themes of peace and harmony. Flexible grout Granfix MAXIGROUT XTRA was used to finish the piece off. This product

is available in a choice of nine colours including Tracy's selected Grey. It boasts mould and water resistant properties, and can be used with underfloor heating.

01827 871871 www.instarmac.co.uk

Roofshield preserves historic church



The historic church of the Parish of St Wilfrid's in Kennington is benefitting from an added layer of protection in the form of Roofshield from **A Proctor Group**, which has long been recognised as one of the highest performing roofing membrane solutions,

providing a pitched roof underlay, which is both air and vapour permeable. Roofshield's patented Spunbond Meltblown Spunbond structure allows high levels of airflow, in addition to the transport of moisture vapour, making the formation of condensation in the roof space virtually impossible.

01250 872261 www.proctorgroup.com

Crown Trade's historic shades support luxury finish at Bovey Castle



Crown Trade Clean Extreme Scrubbable Matt has blended historic grandeur with outstanding durability as part of a luxurious refurbishment project at the landmark hotel, Bovey Castle. The coating has been applied in shades from the Crown Trade Historic Colours Collection – combining authentic shades from the past within a high quality, super scrubbable formulation to support the hotel's stunning decor and stringent cleaning regime. A multi-million-pound refurbishment of the public areas, spa and restaurants was completed in 2015. As part of its continuing investment, the hotel then embarked on the first phase of an extensive bedroom refurbishment programme, which was completed in April 2016. Twenty-six bedrooms located in the east wing of the hotel have been redeveloped to create 22 ensuite rooms of uncompromised quality, with the colour scheme designed to offer a subtle, restful style. The shades that were chosen are taken from the Palladian scheme – one of eight distinctive architectural and design styles from the Crown Trade Historic Colours Collection. The collection offers specifiers the ability to select authentic and accurate colours with confidence.

0330 0240310 www.crowntrade.co.uk



Door closers help retain heritage

Powermatic controlled, concealed door closers from Samuel Heath & Sons are perfect for use in heritage and historic buildings where modern fire safety and convenience features need to be introduced, but where the retention of important, often historically significant, features and finishes is vital. Fitting neatly between the door and frame, Powermatic door closers are totally concealed when the door is closed, and particularly unobtrusive when the door is open, enabling the appearance of doors and interiors to be retained. They are also easy to install in new or retro-fit situations and are ideal where shaped door heads or floor conditions preclude other door closing devices. Designed and manufactured in the UK, Powermatic door closers are available in nine finishes, to complement most decorative requirements.

0121 766 4200 www.concealeddoorclosers.com

Change provision to increase custom



Venues and retail outlets could significantly increase the number of families visiting, just by adapting accessible toilet facilities. A survey by Firefly Community of 20,000 families with children who have special needs found that: 97 per cent of families surveyed said changing their child whilst

out and about was a problem. **Clos-o-Mat**, one of Britain's leading supplier of disabled toilet solutions, has been instrumental in developing the Space To Change toilet layout, and working with campaigners and Firefly Community to promote the concept.

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

Vortice supplies to former convent



Built on the site of the Poor Clares Convent, is a new development of 16 luxury homes. In the sought-after village of Baddesley Clinton in Warwickshire, landscape plans are now becoming a reality. The convent itself has been converted and six new

dwellings built on the site which closed as an active convent in 2011 after 160 years. Vortice has installed the energy efficient Vort Leto into the apartments. The Vort Leto MEV is a continuously running ventilation unit which continually extracts from the wet rooms.

01283 492949 www.vortice.ltd.uk

A Georgian townhouse approaches Passivhaus EnerPHit standards

A n historic Listed Georgian townhouse in London's Bloomsbury has been transformed into a comfortable, peaceful and energy efficient home that approaches Passivhaus EnerPHit standards.

Robert Prewett of Prewett Bizley architects took on the challenge of convincing conservation officers that a Grade II Listed building could be successfully fitted with a host of energy saving measures whilst respecting all the historic features.

The large single glazed sash windows were a particular challenge as they represented a significant proportion of the wall area and could not be replaced. Therefore the answer was secondary glazing; but the extremely high levels of insulation required, the aesthetics and the need for working shutters in some rooms demanded a bespoke solution.

Robert approached Selectaglaze which was



both developing a new sash window design and trialling Pilkington's Spacia thin vacuum units which have a centre pane U-value of 1.0. The resulting Series 25 window proved perfect for the project as it offered high sealing efficiency, a very low U-value and a discrete frame with a specially developed slide catch that allowed shutters to fully close. The house now has air tightness close to 1 air change per hour at test pressure which demonstrates that the secondary glazing is performing very well.

Monitoring tests will now assess the efficiency of the scheme over time.

To find out more about Selectaglaze's high performance thermal or acoustic secondary glazing, you can visit them at EcoBuild: stand C174.

01727 837271 www.selectaglaze.co.uk





THE BEACON Hemel Hempstead

High ambition

The Beacon, shortly to begin construction in Hemel Hempstead, is set to be the world's most sustainable residential tower. James Parker spoke to the project's architect to hear about this proposed model of luxury eco-living

The Beacon is an ambitious sustainability project in the UK residential sector in its own right. The 17-storey tower by developer Lumiere Developments is also a statement by a firm looking to make its mark and, as the name suggests, create a model for others to follow.

Lumiere's mission is to "promote largescale uptake of renewable energy," and this pioneering zero carbon scheme, which is about to start construction on a site near the A41 in Hemel Hempstead, brings a number of technologies together towards meeting this goal.

The scheme comes with a host of big claims – the firm says the Beacon will be the "world's most sustainable residential tower" thanks to a highly-insulated concrete construction – hoped to deliver 40 per cent energy savings – and a range of other measures. Lumiere is also promising "free energy for life," and the first electric car and bike share scheme of its kind. And at less than half an acre, the site's small footprint is helping support the project's claim to have the highest density 'solar farm' yet seen – the building will be covered in PV panels.

While all this might sound a bit too good to be true, Lumiere's project architect Nik Vyas is deadly serious about delivering on the project's aims. And with the building having received detailed planning permission and over 40 per cent of the flats reserved, the proof will soon be visible.

He says the development is unprecedented in the UK, however: "We are trying to create a shift in the industry. I have never worked on a building with such high sustainability credentials, and to be frank that's because there aren't many." He adds, however that there have been doubters: "Naysayers are saying you can't build a zero carbon building of this type on this site at an affordable cost. People say it's going to cost you a fortune, but according to what we have done so far it's not; it can be built for the same price as social housing."

The developer is looking to tap into strong consumer interest in sustainable living, but also to attract a wide range of demographics including those seeking luxury. The 272 apartments range from £217,950 for a onebed up to £524,000 for a three-bed and penthouses at around the £1m mark, and will be high-spec throughout.

One of the most innovative aspects of the building is the 'cooperative' lifestyle concept that Lumiere has formulated, which residents need to buy into in order to get the full financial benefit, such as renting their cars from the developer and using facilities within the building such as the gym and cinema.

One of the project's key selling points – that of being able to save residents £11,000 a year on bills – is predicated on using all of the available services. It is even hoped they will be able to reduce management fees they pay in so doing, as a result of the profits being returned back to the building.

Vyas believes this is another rare aspect of the scheme: "The big idea is trying to create a social equilibrium between all residents – I've never come across that before."

He reveals some passionate views about the potential of sustainable buildings, but also the relative lack of such buildings of this scope in the UK residential sector, views which have helped provide impetus for pushing the envelope on the Beacon. "The solutions to end energy poverty are there, but no-one's ever really tried to answer the questions on such a grand scale."

Vyas adds: "It's our job to show the industry that it can be done, and to raise the



The reception will feature a 'Living Wall'

The design team rejected an original scheme using the traditional in situ concrete columns and slabs, and opted for an innovative, largely columnfree design with thick 145 mm walls instead





question of why aren't people doing it."

He quotes WHO statistics which show seven million people die from air pollution each year and says that such figures, in the context of the fact that buildings account for 40 per cent of harmful emissions, are key drivers for Lumiere, not simply maximising profit margins.

Brownfield regeneration

The former brewery site a mile south west of the centre of this London commuter belt town was acquired by Lumiere in 2012 and currently holds an empty four-storey office building.

Hemel Hempstead was named 'the UK's ugliest town' the year after the site was acquired for development. However, the Beacon sits at the centre of the Hemel Evolution regeneration programme, and is adjacent to 400 acres of protected Boxmoor Trust green belt land.

This helps explain why there has been a large amount of interest among buyers, in addition to the combination of sustainability and luxury living, and the fact that the town is 24 minutes from Euston station.

The use of a brownfield site bolsters the project's sustainability credentials further, as does its comprehensive recycling strategy. The soft strip and soft demolition of the office building on the site has already been undertaken and materials will be, where possible, recycled in other buildings, including the new tower.

Materials that have been reused elsewhere include cedar cladding, and Lumiere has reused fittings such as air con and VRV units, doors and frames, locks, ceiling and carpet tiles, cables, furniture and decking in its own office. Once the hard demolition is complete, the superstructure will be reused as aggregate for tower construction plus access roads.

Building form

The tower has been designed to not only offer a high degree of air-tightness and a lightweight construction but also with a focus on aesthetics, says its architect. According to Vyas, beauty has not always been linked to sustainable design: "There are sustainable developments which don't look that great or exciting – I think this will be a stunning building from far away, and up close."

Following extensive research into how to create a lightweight in situ concrete tower block using fewer materials, the design team rejected an original scheme with the traditional in situ concrete columns and slabs, and opted for an innovative, largely column-free design with substantial 145 mm walls instead. Vyas explains: "After some serious interrogation of the figures from the structural engineers, we produced a design where all of the partitions within apartments are structural – that creates an incredibly rigid building."

He adds:" "Having so many intermediate levels of support also means all of your slabs can be a lot thinner than on a conventional multi-storey building." As a result the only columns are a handful on the ground floor, and slabs are only 175 mm, meaning a reduced use of concrete overall.

Walls between apartments include two layers of plasterboard plus Rockwool insulation, the result being, says Vyas, much better acoustics than social housing and student accommodation projects he has visited, where "you can hear people two apartments down."

From the first floor up, there are continuous 'solar' balustrades with PV panels angled at 38 degrees to optimise their exposure to sun year-round. This will present a somewhat unusual facade of skirt-like ribs of sloping PV balustrades with generous punched windows between, but which will not affect residents and, says Vyas, presented no issue for the planning department. In addition, the PVs will all be maintained externally, and that very few panels will need to be replaced over the tower's lifetime, according to the architect.

The building steps back slightly above floor 13 with penthouses clad using quadruple-glazed curtain walling glazing panels. Storeys below will all have triple-glazed windows, assisting in the building's overall Uvalue of 0.1 W/m²K achieved through a significant volume of Rockwool insulation. While the building will be designed to be highly air-tight, the windows will be tophung and openable. This means the building's high level of thermal performance can't quite reach the heights of Passivhaus. However it's expected that residents will see a reduction in heating costs of 70-80 per cent.

Vyas explains the reasoning: "People do like control – if it's a hot day, they may want some air. People still have to be comfortable in their home and some like fresh air and some don't – it's not up to me or the developer to take that away from anyone."

Construction will be scheduled in a highly efficient way – all concrete will be formed at the same time, including upstands and partitions – once the third storey is underway the first fix will be able to commence on the two levels below. This means "very concise sequencing as building progresses," says Vyas,



adding "you don't have to wait for the whole building to be cast in order to put glazing panels in; it dramatically reduces construction time."

He says that the design team "sees all of our subcontractors as partners – an integral part of the team. They can use our offices in Rickmansmorth whenever they want to." He adds that the developer's strong CSR policy is shared with subcontractors to get them to buy into the values, such as on recycling of materials.

Atrium & interiors

A central atrium containing an arboretum will enable access to apartments via glass lifts. The atrium's key design intent is "an attempt to provide quality of air within the space," says Vyas. The design team is currently working out whether it can be topped with an ETFE roof, but he says this is a favoured option "because it has better sustainability credentials than glass and is maintenance-free."

The ground floor is where the main amenities for residents are located, from the internal arboretum to the cafe and bar area, water features, club lounge and cinema room as well as external patio space. In addition, on the first floor will be a 2,120 ft² gymnasium, and a communal roof garden will also provide an outdoor residents decked 'library' area and an 'observatory.'

With the aspiration being to attract highend customers as well as those seeking affordable options, interiors will be high spec with wood-floored hallways and open-plan living areas featuring ceramic tiled floors and walls. Living spaces (floor to ceiling 2.7 metres, and in penthouses 3.1 metres) open on to private balconies through full height patio doors and windows.

FACING PAGE

Angled balustrades are covered with PV panels

ABOVE

A bedroom in one of the Beacon's penthouses

FACTFILE

- EPC A rated
- World's highest density solar farm (0.8 MW < 0.5 acres)
- Solar PV panels embedded into balustrades at each floor level
- Triple-glazing to all apartments, quadruple-glazing to upper level apartments
- Ground source heat pumps and air source heat pumps extract heat from basement and atrium respectively to heat hot water
- 100 per cent rainwater harvesting (collected at roof and balcony levels) for toilet flushing and irrigation of planters on all external balconies and internal arboretum
- MVHR (mechanical ventilation heat recovery) system – including comfort cooling
- Thermal emissivity < 0.2 W/M²K
- Electric car and electric bike hire scheme
- UK's tallest residential indoor arboretum
- UK's largest underground automated robotic car park – 319 car park spaces



The roof garden also includes an 'Observatory'

DESIGN TEAM

Architect: Lumiere Designs Architectural technician: Wardmans Architectural Services Structural & civil engineer: JC Consulting

M & E engineer: EMEC Design and Consultancy

Health & Safety consultant: We Do Health & Safety

Acoustic consultant: WBM Acoustic Consultants

Fire Safety consultant: Design Fire Consultants

Automated parking system: Skyline Parking AG

Building Control consultant: Harwood Building Control Approved Inspectors

CDM coordinator: Construction Safety Solutions

Home Quality Mark consultant: Hodkinson Fully fitted kitchens will feature energy efficient A+++ rated appliances, and other energy efficiency features will include smartcontrolled thermostats, comfort cooling systems and automated blinds. Penthouse apartments will have substantial terraces including winter gardens, hot tubs and electric privacy glass.

The developer is actively trying to encourage residents to discard their cars with its what's claimed to be a pioneering rental scheme. However there are 319 car parking spaces packed into a tight basement area, thanks to an APS robotic system which stacks cars efficiently, enabling high density parking.

Renewables

In addition to the solar PVs producing a large chunk of the building's electricity, ground source and air source heat pumps will provide heat for water, and the building's ceilings will be cooled using a recycled greywater system. In fact all water used in the building will be either rain or greywater harvested; no water will come through the mains, which is projected to save around five million litres per year.

"There are five huge tanks in the basement" says Vyas, adding that all of the appliances "have been carefully considered on water and energy use," and from toilet fittings to kitchen units they generally range from A+ to A+++.

In addition to the MVHR system sucking up extra solar gain in the building, heat will also be recovered to warm harvested water: "The more heat we get into space the more energy we produce," says Vyas. He says this would obviate normal concerns with heat gain from an ETFE roof, adding – "people normally put a fridge on the roof. However with our system the more heat we get, the more heat can be recovered and used."

Measurement

The building is one of the first in the UK to be assessed under the BRE's new, comprehensive five-star ratings system for housing, the Home Quality Mark. It is no surprise that the architects are hoping to come out with a fivestar rating, covering criteria such as comparative running costs, environmental footprint, amenities and wellness. Given that the building is relatively close by the BRE in Watford, it's likely its academics will take a close interest in the results, to see if turns out to be the exemplar it promises to be.

Whether or not it is eventually confirmed as the world's most sustainable apartment block, residents will be receiving copious amounts of information on how their investment is performing, This data, ranging from wind pressure to heat gain, and gathered from sensors placed during construction, will also give the developers crucial knowledge on what is working and what could be further improved on.

Although detail packages remain to be ironed out in the design, this potential gamechanger of a project has already provided the blueprint for Lumiere for its pipeline of future residential schemes, including in Hemel Hempstead.

DOORS, WINDOWS & CONSERVATORIES SUPPLEMENT



adf





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Premium Italian ironmongery



Stunning designs from two of Italy's best hardware brands – Fusital and Valli & Valli, both owned by Assa Abloy – are now available from architectural ironmonger **BJ Waller**. For architects and

specifiers working on projects where style and luxury is a must, Fusital and Valli & Valli offer collections to suit any residential or commercial installation. Products are available in 28 distinct colours, materials and finishes. BJ Waller offers a comprehensive consultation and specification service to architects to select the best architectural ironmongery for the project.

01353 647111 www.bjwaller.co.uk

Crittall launches InnerVision range



Crittall, a world leading steel windows and doors manufacturer has launched the InnerVision range of bespoke steel-framed internal screens that will create a new world of possibilities for opening up living, commercial, academic and retail spaces.

Combining precision engineering, elegant design and professional quality installation, InnerVision's glazed walls will find favour in period buildings, former industrial settings or entirely modern structures. The screens allow the sub-division of internal spaces without interrupting the transmission of light or reducing valuable space.

01376 530800 www.crittall-windows.co.uk

Comar 7P.i commercial swing doors



Comar Architectural Aluminium Systems next generation of commercial swing door sets. By taking the extensive range of solutions from its market leading Comar 7 Door range and coupling this with their trade-marked Comar Pi (polyamide insulation), the Comar 7Pi Commercial Door offers even lower U-values

housed in robust profiles for high traffic areas such as Hospitals, Schools, Public Buildings and communal flat developments. Safety and user friendly solutions are offered in the Comar 7Pi Commercial Door, with aesthetically pleasing round anti-finger trap stiles.

020 8685 9685 www.comar-alu.co.uk

swf joins respected trade organisation



Telford-based Steel Window Fittings Ltd has joined the **Steel Window Association** (SWA), the organisation that supports its member companies with a wide-ranging service relating to product development, market research and promotion. The decision by Steel Window Fittings (swf) to

join the UK recognised trade organisation can in part be attributed to the fact that, by meeting the SWA's vigorous standards, the company will be better able to assure new customers that its window accessories and business practices conform to the highest criteria.

info@steel-window-association.co.uk



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CONTACT US

t 01603 408 804 e info@idsystems.co.uk idsystems.co.uk



Ahmarra Door Solutions has supplied bespoke panel doors for 'Westbourn', a newly built luxury mansion in the Surrey countryside by leading luxury property developer, Hencan. Ahmarra worked closely with the developer, Hencan to select Blenheim two-panel doors in an Ebony Ash stain from their Artisan Panel Door Collection. This bespoke range of panel doors includes stunning designs from Ahmarra's latest projects.



With over 20 successful years in business, Unicorn Windows Ltd provide a full, professional service from point of contact to after-sales care. Impressive and practicable; Unicorn Windows only install high quality, high security, energy efficient products. Specialising in Heritage works and a wide range of bespoke products for domestic and commercial properties, Unicorn Windows are perfectly placed to turn plans into realities.



SIMONSWERK has enhanced its popular TECTUS hinge range. The TECTUS TE240 3D-n hinge suitable for unrebated and rebated flush residential doors now has an increased load capacity from 40 kilos to 60 kilos. The new version will now carry a door weight up to 60 kilos when fitting two hinges per door leaf. The sideways closed hinge body allows for a mortise appearance and is completely concealed with maintenance free slide bearings.



Urban Front are designers and manufacturers of contemporary hardwood front, garage and internal doors. They are very proud to be designed and made in Britain. Recent additions to our product range include bronze or metal finished doors, oversized doors up to 1.5m x 3.2m and various other bespoke options to include specialist locking and detail. Urban Front offer a RIBA certified CPD and Blogs, you can read all about these on the company website.



Exciting new colours on garage doors

Garador is setting an exciting new trend with the introduction of three fresh new colours for its steel garage doors. A new solid Rosewood and solid Golden Oak paint finish joins an attractive Pastel Green now offered as standard options on Garador's top selling steel garage door range; which includes steel up & over, side hinged and garage side doors. These new mint and brown colour tones work well on external doors and are befitting to properties that feature natural timber products or are surrounded by plants. The paint quality and production techniques developed at Garador's UK factory, including the latest in unique powder coating and electrostatic processes, ensures a deep vibrant colour that endures. Unlike many older garage doors, Garador's modern range of steel garage doors are manufactured with panels which are completely free of rivets.

01935 443709 www.garador.co.uk

Spitfire Doors launches timber fusion



Luxury residential entrance door supplier, Spitfire Doors, has launched a new timber fusion collection in response to growing market demand in the UK and Ireland for a high end alternative. The S-400 range, which is constructed from West Canadian red cedar, will sit alongside Spitfire's

S-500 exclusive aluminium range to provide luxury quality, high specification entrance doors. The door's elegant finish is complimented by modern stainless steel hardware and organic glass inlay options, as well as state-of-the-art security features.

01625 412570 www.spitfiredoors.co.uk

Boxed rooflight used for unique project



Located in the Jumel Terrace Historic District of Washington Heights in north Manhattan, this late 19th century threestorey apartment house has not only been returned to its former glory, but has been beautifully enhanced with a state-of-theart kitchen and stunning contemporary

bathrooms. The glazed three-wall box rooflight supplied by **Glazing** Vision is a stunning 21st century addition to this property, helping to successfully unlock that all-important roof top space in this metropolitan city.

01379 658 300 www.glazingvision.co.uk

Bronze 'Slimline Door'



In response to market demand, Architectural Bronze Casements have recently launched their bronze slimline door which is an exciting addition to their range of products which include; bronze windows, doors, screens and secondary glazing. The slimline door can also be integrated into a bronze screen which provides more scope with its use within a building. The aesthetics is so unique as they have a richness and depth which will add character.

enquiries@bronzecasements.com

Eco Town features Rationel windows



Danish timber window manufacturer **Rationel**, is proud to have its timber window products at the centre of the UK's first eco town in Oxfordshire. A2Dominion says: "Rationel's products have slim attractive timber profiles, and a modern Scandinavian design – which are

in keeping with our vision. We are achieving ground breaking standards in sustainability in this development which we are hugely proud of." "We chose Rationel to showcase the highest Code 5 in Sustainable Homes levels using existing products on the market. Windows have to have low u-values, with no compromise to real sustainability."

01869 248181 www.rationel.co.uk



Daviel Salisburg



David Salisbury has been manufacturing engineered timber windows, doors, roof lanterns and glazed extensions for over 30 years.

We serve architects, developers and construction industry professionals looking for the finest quality timber joinery. We can provide design advice and technical assistance as well as producing comprehensive quotations and detailed CAD drawings where required.



01278 764446 davidsalisburycommercial.co.uk

GEZE's smart solution



Imagine being able to manage your premises at the touch of a button. The increasing popularity of smart building solutions is fast turning that into a reality, and now GEZE is introducing an interface module that will draw its door and window technology into that network. The IO 420 connects into the BACnet system to manage light,

heating, ventilation and alarm systems. It provides a fast, simple and standardised integration which works with GEZE window drives, automatic door systems, heat and smoke ventilation products, and safety technology products.

01543 443000 www.geze.co.uk

AluFoldDirect is a 'Lancashire Hot Spot'



Architects can discover the full design potential of aluminium at the new **AluFoldDirect** Aluminium Glazing Design Centre – a Lancashire 'Hot Spot' for aluminium windows and doors.

The specially designed centre is part of the leading aluminium fabricator's new factory premises based in Blackburn and customers are invited to call in to see, touch and feel the full range of modern aluminium glazing products available for their project. The centre includes the new Technic-AL RD1 residential door.

01706 260700 www.alufolddirect.co.uk

TORMAX access improves school safeguarding



Significantly upgrading safeguarding standards, Derbyshire County Council Construction has recently completed a new reception area at the William Allitt School, incorporating a sliding automatic entrance system from **TORMAX**. Giving good visibility from the office, staff can easily monitor people and pupils as they come into and leave the building. Powered by the TORMAX iMotion 2302 sliding door operator, a long-life span with exceptional reliability is assured thanks to the unique, high-torque motor that has been cleverly designed without any of the elements that commonly wear out, such as gears and brushes. The old entrance to the main building was concealed within a recessed courtyard with the office situated elsewhere, meaning there was no external door security. Aiming to improve the safeguarding of pupils, the newly constructed reception area includes an office, waiting area, meeting room and toilets. Creating a smart, aesthetically welcoming entrance, the TORMAX sliding door system is finished in both a dark and light-blue powder coated aluminium, echoing the school colours and providing visual contrast.

sales@tormax.co.uk











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Build on Ecoflex

Uponor UK will be showcasing its range of preinsulated pipe systems (Ecoflex) at Ecobuild. The pipes provide a reliable, innovative, flexible and cost efficient method for transporting a variety of liquids both inside and outside of buildings. Other core benefits of the pipe include:

- Long service life
- Low weight and highly flexible can be fixed easily around corners
- · Proven static load resistance
- Suitable for a variety of different applications commercial and residential

Please visit stand D169 to find out more information about our Ecoflex solution.



ECOBUILD STAND NO D169



WWW.ARCHITECTSDATAFILE.CO.UK



Exploring new avenues for 2017



The annual conference and exhibition will turn the ExCel centre into an "immersive city" packed with the latest innovations for the built environment

Cobuild returns in March with a focus on regeneration and a complete overhaul of the floor plan for the show's 2017 edition.

The annual conference and exhibition will transform the ExCel London into a "city" with a main street, distinct destinations and special feature attractions. The "boulevard" – aptly named Regeneration Drive – will run through the centre of the exhibition floor to guide visitors through the best examples of innovation and creativity.

"We asked our visitors what they want and need from the show," explained Martin Hurn, brand director at Ecobuild, "and sustainability overwhelmingly came to the top of the agenda. Imagining the exhibition as a city allows us to deliver a unique programme focused on regeneration in a way that is relevant and inclusive to all our exhibitors and visitors.

"Different aspects of construction and the built environment deserve specific focus, and each of Ecobuild 2017's destinations will have something distinctive and exciting."

Pavilions will be showcased from associations including the Builders Merchants Federation, Passivhaus Trust, NFRC, Concrete Pavilion, TRADA and the STA.

As visitors make their way up Regeneration Drive, they will be introduced to key destinations including The Arena, City Hall, The Campus, The Gateway and The Performance Lab.

The main hubs

The Arena will be home to the Ecobuild Conference, where UK Green Building

Council (UK-GBC) will host daily leadership panels chaired by the organisation's CEO Julie Hirigoyen.

City Hall, the show's sustainability hub, will be home to the UK-GBC and World Green Building Council, representing the culmination of Ecobuild's 'Redefining Sustainability' campaign which seeks to raise awareness of sustainability objectives and drives across the industry.

At the Campus, "the place for innovations and latest technology," architectural collective Assemble will present its Turner Prize-winning Granby Workshop project through an installation that will tell the story behind the regeneration project. Meanwhile, Future Materials, a gallery curated by ARCC, will preview materials and processes in research or testing stage.

The Gateway (in partnership with the Institution of Civil Engineers) will be the show's 'hub' for national and social infrastructure projects, including a seminar theatre dedicated to green infrastructure.

The Performance Lab will showcase the latest in smart home and smart building technology in association with Ecobuild 2017's building performance partner, the Chartered Institution of Building Services Engineers (CIBSE).

District energy & offsite construction

The ukDEA District Energy Town Square will host British as well as international pavilions from Sweden and Denmark – two of the most mature district energy markets globally. Ecobuild has also partnered with Explore Offsite to deliver a showcase of the opportunities offered by offsite



Midland Lead is the only lead manufacturer in the UK to give you a complete range of 100 per cent recycled lead

sheet options: sandcast lead, machine cast lead or rolled lead. Come and visit the company at the NFRC pavilion to see how it recycles scrap lead from old buildings to re-roof heritage projects with its authentic sandcast lead sheet. Stand C129.



Founded in 1992 Greenblue Urban was set up to research and provide solutions for assisting trees in their battle to establish in urban spaces. The

GreenBlue Urban Arborsystem brings together the key elements of successful tree pit design and simplifies the planning and installation process. Landscape professionals can combine root management, structural soil components, aeration, irrigation and appropriate above ground surface grille and vertical guard in a single package. **Stand E128**.



CORESHIELD

The effects of stray Electromagnetic energy and the associated potential dangers to human health and sensitive electrical equipment are becoming

increasingly understood by Architects and Design engineers. The **Coreshield** modern lightweight screening system (50Hz) is specifically designed to mitigate stray fields generated from sources of induction, transformer rooms, switch rooms and HV/LV cable runs. **Stand A130**. technology, with industry-leading suppliers and daily masterclasses.

Conference highlights

Day one will focus on future-proofing building and construction. Key topics will include large scale domestic refurbishment, carbon reduction in the built environment and promoting green infrastructure through planning, while Ecobuild's Big Innovation Pitch will conclude with finalists presenting solutions to M&S and a judging panel.

On day two a panel of experts featuring RIBA President-elect Ben Derbyshire will debate solutions to the housing crisis. Topics also covered include improving energy efficiency in non-domestic buildings and meeting the new zero carbon homes standard as part of the 'Low Carbon London' initiative. BBC arts editor Will Gompertz will also interview recent RIBA Charles Jencks Award winner Niall McLaughlin of Niall McLaughlin Architects.

On day three speakers will look at the possible legislation binding developers in an agreement to consider the wellbeing of future generations when planning. Speakers will discuss 'managing down' energy consumption and using BIM for facilities management.



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ECOBUILD STAND NO B133

Design in public places

D ELABIE, European manufacturer of water controls and accessories, will be showcasing its range of stainless steel sanitary ware at Ecobuild. Valued for its bacteriostatic properties and vandal-resistant qualities, stainless steel is the mainstay of professional kitchens and secure sector institutions. However, DELABIE offers a range of sanitary ware that allies the hygienic and durable characteristics of stainless steel with designs that provide a new aesthetic for public sanitary facilities.

Suitable for intensive use

Conforming to sanitary equipment standards and regulations, DELABIE's stainless steel range can support heavy loads and resist abrasion, scratches and chemical products. The sanitary ware is performance tested in order to withstand intensive use in highlyfrequented environments. Stainless steel is a highly resistant and durable material, able to withstand high temperatures. The sleek, tamperproof design limits the risk of vandalism.

Hygienic design

DELABIE's sanitary ware is made from bacteriostatic 304 stainless steel. A thin, invisible protective layer forms continuously when in contact with air or water. If the surface is damaged mechanically, the stainless steel is protected against corrosion. The surface remains bright, hard and smooth, preventing bacteria from easily adhering to the surface. The surface is uniform and non-porous which is easy to clean and disinfect, reducing the spread of bacteria and minimising unpleasant odour. Polished stainless steel provides better hygiene and facilitates sustainable cleaning.

Featuring DELABIE's water controls, the stainless steel sanitary ware range is specifically designed to meet the needs and



issues faced by public places. The high quality aesthetic also means that public toilets no longer feel like institutional facilities, but offer a pleasing environment for public installations. Stainless steel is a prestigious, high quality material, shown at its best in the design of DELABIE's sanitary ware.

Visit DELABIE on stand A205 to discover more about the new stainless steel sanitary ware range.

ECOBUILD STAND NO A205

01491 824449 www.delabie.co.uk



Proctor Group ExCeLs in buildings



The **A. Proctor Group**, recognised world wide for its extensive portfolio of technically advanced thermal, acoustic and membrane products for the construction industry, is leading the way in the research, design and manufacture of solutions which are at the forefront of the

drive to achieve the optimum balance in the areas of heat, air, and moisture movement. Visitors to Ecobuild 2017 will be able to see the latest innovative and technical products, which will ensure that architects, developers and contractors are able to address the need for the ideal energy efficient, healthy, and moisture free building envelope.

01250 872261 www.proctorgroup.com

ECOBUILD STAND NO C120

New product innovations from Ancon



Keeping innovation at the top of its agenda, high integrity structural fixings manufacturer, **Ancon**, will further expand its wide product range with new product launches at the UK's largest event bvfor specifiers in the built

environment, Ecobuild 2017. On the Ancon stand B135, key product zones will include the innovative Nexus brick-faced support system for prefabricated soffits, a comprehensive range of low thermal conductivity wall ties and structural thermal breaks for balcony locations.

0114 275 5224 www.ancon.co.uk

ECOBUILD STAND NO B135

Bauder back at Ecobuild



Flat roof manufacturer **Bauder** will once again be bringing its roofing solutions to Ecobuild, the world's leading event for sustainable design, construction, energy and the built environment, having been ever present at the exhibition since its inception back in 2005. At this year's Ecobuild, Bauder will be showcasing its full range of bituminous, single ply, cold liquid applied and hot melt waterproofing systems; which includes a variety of flame-free solutions that offer high performance alternatives to more traditional applications and that satisfy the growing demand for improved safety within the industry. As always there will also be a real emphasis on sustainability at the event and Bauder's high quality green roof and PV systems will feature prominently. This comprehensive system offering enables Bauder to recommend the most suitable solution for every project, whether new build or refurbishment, ensuring that it answers the practical, environmental and budgetary requirements of your build. To see Bauder's industry leading roofing solutions for yourself be sure to visit Ecobuild at ExCeL London March 7th-9th on stand D124 nearby the N2 and N3 entrances.

01473 257671 www.bauder.co.uk

ECOBUILD STAND NO D124



Mapei to exhibit at Ecobuild

apei, a company renowned for their long standing environmental commitment in the manufacture of construction products, will be exhibiting at Ecobuild for the seventh consecutive year in 2017. Visit stand C169 for product demonstrations and expert advice on specifying sustainable products for new build and refurbishment projects.

Now in their 80th year, Mapei will be promoting all UK-active sustainable products at Ecobuild; providing visitors with a real understanding of the solutions Mapei offer. Technical assistants will demonstrate Mapei's BBA accredited Mapetherm EWI, render and coating systems in designated demonstration areas, presenting on how to ensure a high quality finish with sustainable thermal insulation along with practical demonstrations for the installation of large format thin porcelain tiles using Ultralite Adhesive.

Phil Breakspear, Managing Director at Mapei UK said "We are again committed to showcasing Mapei UK's certified sustainable products at Ecobuild; Mapei invests five per cent of annual turnover in R&D activities with a total of 70 per cent of this channelled into the development of more environmentally friendly products. We are always striving for ways in which to limit our environmental impact, constantly evaluating how our products can be improved."

The regeneration theme at Ecobuild will showcase sustainability as a catalyst for renewal across building industries and wider society. Consequently the raised floor, walls, doors, counters and light fittings in Mapei's house on Regeneration Drive are all items that have been reused. Featured solar panels will symbolise the large installation currently in situ at the Mapei UK head office in Halesowen – one of the top 20 solar panel installations in the UK, currently reducing Mapei UK's CO_2 emissions by approximately 189 tonnes per year. For the second year running, trees that are integral to the stand's



'garden' will be donated to local Birmingham schools after the event, to be reused and enjoyed in green spaces by future generations.

As a leading company on the global construction market and a member of Green Building Council's worldwide, 'Sustainable' construction, the saving of natural resources along with a reduction in emissions and waste materials are incorporated into the business's sustainable practices. This adds to Mapei's long-term, enduring commitment towards eco-sustainability, through manufacturing, certification and process compliance including ISO 14001, Mapei look forward to exhibiting at Ecobuild 2017

0121 508 6970 www.mapei.co.uk

ECOBUILD STAND NO C169

Find the Flowcrete floor for you



On stand C147 of Ecobuild 2017, Flowcrete UK will be showcasing its range of resin finishes and sub floor screeds that have been designed to create high performance, environmentally

friendly floors. This includes the fast drying Isocrete Alpha Screed. Attendees will also be able to learn how the Floorzone package means that they can source each element of a floor build up from only one place! The Floorzone solution includes decorative finishes such as the seamless resin terrazzo Mondéco range, green screeds, energy efficient under floor heating and noise reducing acoustic insulation.

01270 753 000 www.flowcrete.co.uk

ECOBUILD STAND NO C147

Sunsquare set to wow architects



UK skylight manufacturer **Sunsquare** is set to impress visitors of the Ecobuild Exhibition with its comprehensive range of award-winning products. The UK's flat rooflight pioneers will demonstrate to leading architects how their bespoke

design solutions can create the illusion of space and light as well as reduce energy costs. Among these is the 30-degree pitch Pyramid Skylight, which takes the renowned thermal performance of Sunsquare SkyView model and combines it with a contemporary aesthetic, and Sunsquare's innovative walk-on internal floorlights.

sales@sunsquare.co.uk

ECOBUILD STAND NO C118

Smart to showcase solutions at Ecobuild



Smart Architectural Aluminium will be showcasing the full breadth of its product range at Ecobuild, with displays focusing particularly on its product solutions for the refurbishment sector. A number of new window and door systems for both

residential and commercial applications are being launched at the show, as well as a new range of high-quality hardware. The Alitherm Heritage range features strongly in the company's main display, with curved windows, French doors and screen systems. Smart's completely new 'slide and stack door', will also be unveiled at the show.

01934 876 100 www.smartsystems.co.uk

Build on Ecoflex



Uponor UK will be showcasing its range of pre-insulated pipe systems (Ecoflex) at Ecobuild. The pipes provide a reliable, innovative, flexible and cost efficient method for transporting a variety of liquids both inside and outside of buildings. Other core benefits of the pipe include: long service life; low weight and highly

flexible – can be fixed easily around corners; proven static load resistance and suitable for a variety of different applications – commercial and residential. Please visit stand D169 to find out more information about our Ecoflex solution.

enquiries.uk@uponor.com

ECOBUILD STAND NO D169

ECOBUILD STAND NO A123

Lomax Builders converts Victorian Schoolhouse into eight energy-efficient apartments

Built in 1897 for £3000, St Mark's Boys' Schoolhouse's beautiful facade stands testament to the delightful architectural detailing of Norwich's late Victorian heritage. Surviving with little visible external alteration, the Schoolhouse has been sympathetically refurbished into eight energy efficient apartments by Lomax Builders Ltd.

From memorabilia found during the renovation, generation upon generation of local families were educated here. Names mischievously carved into the rear brick wall, secret notes written in childish scrawl stuffed behind old timber panes; boys turned into men here - many of whom fought with distinction for their country. A former student, James Arthur Rose, remembers how Schoolhouse narrowly the avoided destruction during the Baedeker Blitz in April 1942. As a boy of 14 he remembers, "we found a large crater in Hatton Road, the bomb missed the School by 50 yards!" Surely this stoic defiance of the Luftwaffe's bombs underlines the special nature of this project a heartfelt desire to breath new life into one of Norwich's unsung architectural gems.

That Lomax Builders Ltd completed the extensive renovation of this beautiful building within just 12 months is all the more impressive when the number of sustainable energy efficient solutions put in place are fully understood. Extensive thermal wall insulation, under-floor heating and high performance period-style timber windows and doors were used throughout. This draughty building with solid walls and high-vaulted ceilings required an innovative solution to go above and beyond the modern energy efficiency requirements of the local planning department. As the roof needed replacing, Minus7 Ltd's award-winning hybrid renewable energy system was the obvious choice. Planning permission was not a challenge for Lomax Builders Ltd as Minus7's building-integrated solar endothermic tile-planks closely match welsh slate in look and weight and collect energy efficiently night and day.

Using the best of solar thermal, heat pump and energy storage technologies in one simple building-integrated solution, Minus7 provides consistent low carbon heat and hot water to the latest occupants of the



Schoolhouse. The low operational and running costs of the system enables the new landlord to incorporate heating and hot water bills within the monthly rental payment - simultaneously increasing the disposable income of the tenants and providing the landlord with an additional revenue stream. With no need to service gas boilers nor landlord certificates, minimal maintenance costs, Minus7 performance guarantees and government subsidies, the landlord will continue to pocket significant savings for decades to come. Lomax Builders have been so impressed, they are now working with Minus7 on their third development, utilising its latest zero carbon technolog, which incorporates embedded photovoltaic cells into the solar thermal roof planks.

As the Schoolhouse boasts the remnants of a massive playground at the rear of the building, Minus7 Ltd's in-house design team have situated the patented solar energy processor outside; thermal stores used to heat the building are hidden beneath decking out in the newly created courtyard, with plenty of room left for parking. The internal pipework for the Minus7 system is buried within the insulation of walls and floor, providing further thermal efficiencies. Even the grand double entrance door is thermally efficient with special thermal raised and fielded panels created to match the original door design – offering wheelchair access and the added benefit of low U-values.

The only major challenge for this project was the location of the Schoolhouse situated close to a busy road that feeds traffic directly into the city of Norwich; additional acoustic glazing to the windows virtually eliminates this external noise. "The result is a warm, quiet and energy efficient building with an improved energy rating certificate from a lowly F to a massively improved B," says David Lomax, technical director, Lomax Builders Ltd. "Great care has gone into the preservation of the building's beautiful façade and we have made an investment to ensure the building will provide affordable, sustainable heat with whole-life cost benefits, low maintenance and reduced environmental impact. This will ensure the building will last for another hundred years."

Meet the Minus7 team at EcoBuild 2017 at stand A162 near the N4 visitor entrance.

01983 282844 www.minus7.co.uk

ECOBUILD STAND NO A162

Kemper System – Ecobuild 2017

Ecobuild is all about sustainability with KEMPEROL[®] 2K-PUR cold applied liquid waterproofing leading the way.

When we talk about roofing systems, their relative merits and sustainability, we need to understand what sustainability means:

The capacity to endure, with the quality of not being harmful to the environment or depleting natural resources and thereby supporting long term ecological balance.

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The resin

80 per cent of the resins in KEMPEROL® 2K-PUR are derived from the seeds of the tropical castor plant, a sustainable resource. The Department of Energy (DOE) reported that there are essentially zero net greenhouse gas emissions from the production of castor oil.

The application

Substrate conservation is a key element in sustainability. When carrying out refurbishment work or upgrading the insulation on an existing roof, the KEMPEROL® resin is usually laid directly onto the substrate or utilises the failed membrane as a vapour control layer as part of the warm roof system build up. This avoids the costly removal of the failed roof substrate and transport off site to become landfill.

The performance

KEMPEROL® 2K-PUR is not only solventfree and odourless, it has proven performance in use with a BBA certified performance life in-excess-of 25 years. It is also inherently root resistant making it ideal for green roof projects.

Responsibly sourced, environmentally



friendly in application and long term performance; produced by a company that conforms to recognised environmental standards. What more could you want from a roofing product?

You can learn more about our waterproofing, warm roof and green roof systems on Stand B141. We're the one with the Duck.

01925 445 532 www.kempersystem.co.uk

ECOBUILD STAND NO B141

Upcycling and zero-waste key



MEDITE SMARTPLY, a leading supplier of sustainable OSB and MDF panel products, is partnering with award winning social enterprise Goldfinger Factory for its ground-breaking new stand at Ecobuild 2017. The two companies are combining their core

values to create a tribute to sustainable innovation. MEDITE SMARTPLY's fully traceable supply chain boasts its own FSC certified forestry management programme, which means it can track its certified products from sapling to site. Complementing this will be Goldfinger Factory's own commitment to zero waste production.

info@mdfosb.com

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Exciting times at Ecobuild 2017



Victorian Sliders has added Ecobuild to its busy exhibition calendar for 2017. ECOSlide PVC-U vertical sliding sash windows, manufactured by Victorian Sliders and supplied exclusively to Professional Trade Installers on a 'strictly Trade only' basis, are the UK's best-selling sash window brand. 10 elegant and eye-catching ECOSlide sash windows will be displayed around the sizeable

Victorian Sliders island stand at Ecobuild 2017, which is being held at ExCeL in London's Docklands from 7th-9th March. Victorian Sliders welcomes visitors to visit them on stand B143.

01269 846200 www.victoriansliders.co.uk

ECOBUILD STAND NO B14

Architects Datafile website



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

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

www.architectsdatafile.co.uk



Totally verifiable performance

Innovative product developments, unrivalled performance certification and an exciting range of software support packages, all combine to strengthen **Schöck's** continued position as the number one supplier of verifiable performance thermal break technology. This year, Schöck pushes the boundaries further with its new generation of Schöck concrete-to-concrete Isokorb, offering unrivalled thermal performance for both standard and Passivhaus construction. Also on display is the Isokorb type AXT – offering a more thermally efficient and more durable alternative to wrapped parapets and minimum savings of 10 per cent on construction costs. The rest of the Isokorb family, for concrete-to-steel and steel-to-steel connectivity are on display too. Among the latest software packages there is the new Calculation Software for the Isokorb type KS and the Thermal Bridge Calculator. The Schöck team is of course on hand to discuss any of the new developments and to offer 'live' consultancy advice.

01865 290 890 www.schoeck.co.uk

ECOBUILD STAND NO B133



K+B design London joins Ecobuild at ExCel

The kitchen and bathroom design show moves in next door to Ecobuild to connect buyers directly with the supply chain

Dubbed 'the ultimate design event for forward-thinkers in kitchen and bathroom design', K+B design London will be held on 7-9 March at ExCel London.

Created by the organisers of KBB Birmingham and co-locating with Ecobuild, the show is promising a unique buying experience from those at the heart of the construction and housing markets.

K+B design London will focus on addressing solutions specific to the capital and the south east area, exploring the new breed of communal living, student accommodation, luxury projects and smallspace design. A wide spectrum of 'future design' products will be showcased, offering visitors a range of solutions in terms of price range, compliance and efficiency.

The organisers note that with a quarter of the UK's construction contracts awarded in London in March 2016 and an annual growth of over 13 per cent in residential contract value in the capital, the demand for effective design solutions is arguably greater than ever before.

Networking

K+B design London will also be an interactive hub for those looking to create new business relationships or foster existing ones at the show's uniquelydesigned bar. It will centralise the floor plan and provide a networking opportunity for industry-leading names and the "most agile kitchen and bathroom brands to address the unmet needs of a design-conscious buying audience."

Some of the brands already confirmed for K+B design London are technology CAD innovators ArtiCAD and Autokitchen and international trend-setters Dansani, Salice, and Rotpunkt. They will join a whole host of established British brands including Siamp, Harvey Water, Drew Forsyth, Design Yard, Aqualux, Wetrooms International and Basically Trade.

This new co-location with Ecobuild will bring leading suppliers to potential clients within the built environment

Co-location

The only UK construction event which annually attracts over 33,000 industry professionals, Ecobuild will run in the halls next to K+B design London at ExCel throughout the duration of the show.

This co-location will bring the leading kitchen, bedroom and bathroom suppliers to potential clients within the entire built environment supply chain, as well as provide access to an extensive database of retail buyers, interior designers, developers and the rest of the 'kbb community.'

Jon Johnston, sales director of k+b design London, hailed the show's move to Excel London as a 'great opportunity'. He said: "I'm really looking forward to k+b design London this year, and particularly our move alongside Ecobuild. This is a great opportunity to create a new way for buyers and suppliers to find everything they need in the construction and design capital. Both communities will have a broader experience to source the latest products, discover cutting-edge technology and to build professional relationships for the future."

To find more information or to register for k+b design London, visit www.kbdesignlondon.com



© Dansani

First FASERFIX[®] BIG SLG channel run installed in UK

The first run of Hauraton's FASERFIX® BIG SLG channel system has been installed in the UK across an access road leading to the Tarmac Leapers Wood stone quarry, east of the M6 motorway at junction 35 in Cumbria.

Just off the B6254 the quarry access road falls steeply towards the open cast facility. Rain water running from the entrance of the quarry contained a lot of silt and this was ultimately blocking up the culvert ditches on the main road – a problem highlighted by the Local Authority. A channel run that traversed the road was needed to catch the water and silt and divert this to a separate catchment area. The quarry is operational six days a week and has about forty, 40 tonne vehicles per day driving in and out of the facility – an average of 480 passes every week. Where the channel had to be located was also where the vehicles had to brake as they near the bottom of the hill, so huge dynamic forces would be exerted on any channel run installed.

Discussions were held between the customer, sub-contractor and the Hauraton Project Manager identified Hauraton's FASERFIX® BIG SLG 300 channel as having the features required to answer the problem, having both the strength and wide catchment area needed. Additionally, the seven metre channel run had to be installed in one day so as not to disrupt quarry operations. The extra thick concrete surround already part of the channel meant that the contractor was able to install the channel run quickly and have enough time for the road to be reopened within 24 hours.

The FASERFIX® BIG SLG 300 channel component has an overall width of 588mm, is 600mm high and comes in one metre



lengths. With a nominal size of 300mm the channel has a drainage cross section is 1020cm². The each length is made from the company's Fibre Reinforced Concrete (FRC) and features 6mm (nominal) thick ductile iron plates permanently moulded onto its top edges. These reinforced edges together with the ductile iron; 14mm grating, provides exceptional wear and load resistance which easily complies with the EN 1433, F900. Each half metre grating is held by four high tensile bolts.

01582 501380 www.hauraton.co.uk

Latest Brick Selector magazine demonstrates endless designs available



Ibstock, one of the UK's largest brick maker, has released the 8th edition of its well-renowned Brick Selector. The specially designed guide showcases the market leading Ibstock range of more than 350 bricks and numerous inspirational designs achievable through the use of brick. This latest Brick Selector features 25 new products launched by Ibstock in 2016, while also offering guidance and advice, alongside relevant technical information to address commonly asked questions about constructing with brick. The comprehensive brochure introduces Ibstock bricks with clear and colourful case studies exhibiting the almost limitless variety of textures, shapes, colours and dimensions of brick available. From glazed Linear to red multi handmade bricks, the new Brick Selector delivers examples of the striking designs achievable. Included in the brochure is the 'Get it Right' section, which is packed with useful hints and tips on how to construct with brick and the 'Guide to Brick Matching', which assists in selecting the correct product for the project at hand. Free with the Ibstock Brick Selector comes a handy six page 'Specials Shapes Quick Guide.'

0844 800 4578 www.ibstock.com

New regionally-matched brick slips from Imperial Bricks



Imperial Bricks has increased its range of regionally-matched brick slips due to popular demand. Imperial offers the widest range of traditional handmade, wirecut and pressed bricks from a single supplier in the UK. All 35 options are now available as brick slips, in shades to match specific regions in the South, Midlands and North and in imperial or metric sizes. The slips, which are cut to a required depth, can be used internally as an 'exposed brickwork' feature wall for a contemporary penthouse look (as pictured) in residential or commercial settings. Externally the slips can be used as cladding to add character and value, or to repair damaged areas. A cost-effective alternative to laboured brickwork, the slips are quicker to install and use less material than traditional bricks. Imperial's range includes 'kiln-fresh' handmade bricks as well as 'off-the-shelf' weathered options with a reclamation finish. Bespoke weathering is also available to ensure restoration work blends in seamlessly – ideal for projects on listed buildings or in conservation areas. All of Imperial Bricks' products are CE marked and fully frost-resistant. For further information or samples contact the company directly.

01952 750816 www.imperialbricks.co.uk

An education in modular buildings

Andy King of Wernick Buildings gives a lesson in how modular construction can delivering the extra space schools need for the future, without added disruption

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Modular construction methods essentially consist of buildings which are built as separate units, created in a specialist factory and then installed on site to form a complete building. These modules are more than just walls and windows however; modular methods can integrate electrics and plumbing into each component part, ready to be connected up when the building is complete. While the building is being created offsite, groundwork on site can run concurrently, speeding up the build programme.

These time savings reduce disruption to schools and can significantly decrease costs. The offsite construction method also lends itself to a stringent quality control process, where buildings are created 'in line' with strict tolerances, and waste production is minimised to virtually zero.

Despite the many benefits the method offers, modular has long suffered from an image problem when it comes to classrooms. Historic perceptions of box-like demountable classrooms with low quality finishes can obscure the image of what 'modern day modular' can achieve. Whether it is colourful rainscreen, curtain walling, barrel or butterfly roofing; modular can now provide the architectural touches previously reserved exclusively for traditional buildings, but in less time and at a reduced cost.

Case study: Brampton Manor Academy

These capabilities are most apparent when modular buildings are used to extend or complement existing traditionally built schools. Brampton Manor Academy, an "Outstanding" rated school in London, required a new building that combined the speedy approach of modular with the block-work exterior of a traditional build. As main contractor on the project we not only created a traditional finish with blockwork and white render, but provided a standing seam curved roof and an attractive fully glazed covered walkway. The completed classroom block blended seamlessly in with the traditional looking buildings surrounding it, and provided much needed space for the school.

The school's finance director, Kit Lam, commented; "We are extremely proud of what has been achieved. Most importantly our pupils and staff are delighted with the building and its facilities and love spending time in such a wonderful environment."

Not only did the completed building meet the client's requirements exactly, the build project took only 19 weeks from conception to completion, with installation taking place through the summer holidays to minimise disruption. This shows the impressive speed with which results visually equal to a traditional building can be achieved using the method, and manufacturers can work hand-in-hand with architects to modularise complex designs effectively and efficiently.

Case study: Birmingham Institute of Forest Research

When the institute needed a sustainable and stylish building for its FACE (Free-Air Carbon Dioxide Enrichment) experiment, it chose to combine the dynamic designs of Glancy Nicholls Architects with the benefits of offsite methods. The project was instigated to measure the effects of increased atmospheric levels of CO_2 had on mature woodlands – so leaving little impact the forest surrounding the research centre was of vital importance.

The building was installed, seemingly





PICTURED ABOVE BIFoR research station, Birmingham





PICTURED ABOVE Brampton Academy's classroom block

floating, on a steel frame with helical pile foundations, meaning it would be easy to remove and relocate without affecting the local area. Thanks to the offsite build programme, the research station could be built at Wernick's factory while the ground works were taking place and the building was installed in a single day – minimising its environmental impact.

The building also needed to visually blend with its surroundings, becoming part of the forest that would be its home. The building design consisted of three connected buildings in a staggered asymmetric layout that echoed the wild, natural landscape. It was clad in cedar shingles, which when combined with a pitched roof also removed the need for downpipes or guttering.

Staff and visitors alike were impressed with the research station according to Dr Kris Hart, Operations Manager at FACE. "We all enjoy working here and it isn't just the staff that like the building. Literally every visitor has commented on how nice it is; and it's my understanding is that the landowners feel the building is so nice that they want to keep it after the experiment has finished."

Buildings like Brampton Academy's classroom block and the BIFoR research

Despite the many benefits the method offers, modular has long suffered from an image problem when it comes to classrooms

station are great showcases for what modular can achieve, and stories like these are becoming increasingly frequent. Thanks to modular being touted in the press as a potential answer to the UK housing shortage, the benefits of offsite construction are becoming more widely known; not just in housing, but in healthcare, commercial, and of course the education sector.

Through this increased knowledge, we hope to see modular becoming an even more prevalent construction method, benefiting a range of clients across the UK. From their sustainability and dependable build programmes, to the substantial cost and time savings they offer, modular buildings' combined benefits puts them at the top of the class.

Andy King is managing director of Wernick Buildings



Fast track plan is a runway success



easyJet selected **Rubb Buildings Ltd** to design, manufacture and construct their new top-flight facility at Gatwick, UK, and the two-bay aircraft maintenance hangar was officially opened in June 2016. The facility provides 5,200sqm of usable working floorspace and can accommo-

date two Airbus A321s at the same time. The hot dip galvanized steel frame is clad with 150mm thick Thermohall insulated fabric and a full LED lighting system, ventilation system and LPG heating system has been installed. To complete the build two sets of vertical lifting 'Megadoor' hangar doors were fitted to allow access to the facility.

info@rubb.co.uk

Denso for National Grid LNG bases



Winn & Coales **Denso** Tank Base Protection System is being used at the Isle of Grain National Grid site on four of their LNG storage tanks. The installation work was carried out by contrac-

tors JPV Painters of Brentwood. To meet various operating conditions at the Isle of Grain National Grid site the Denso Tank Base system was chosen to give effective protection. The Denso Tank Base Protection System is flexible enough to move with the tank when it gets filled and emptied and provides a tough outer armoring. The highly weather resistant system provides a long-lasting solution.

020 8670 7511 www.denso.net

Simpson acquires Gunnebo Fastening Systems AB



Leading construction connector manufacturer **Simpson Strong-Tie** is pleased to announce the successful acquisition of Gunnebo Fastening Systems AB, bringing a complete line of CE-marked structural fasteners and unique fastener dimensioning software for timber applications into its already comprehensive construction products line-up.

In addition to premium quality nails, screws, collated fasteners, mechanical and chemical anchors and connectors, Gunnebo also brings additional high-level technical support, logistics support as well as a broad selection of merchandising solutions for retailers.

The acquisition provides opportunity for both companies to build on mutual strengths. Simpson Strong-Tie CEO Karen Colonias explains:

"Both companies share the same passion for high-quality, innovative products and have consistently focused on providing exceptional customer service."

01827 155600 www.strongtie.co.uk



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excellence in engineering

Terrain has a ball on O2 Project

E urope's largest pillar free ballroom can now welcome dancers from around the globe thanks to the installation of an innovative drainage system.

The 4,800 metre² ballroom, situated in the InterContinental London O2 Hotel, is located close to its iconic namesake, the O2 Arena. The hotel also boasts several restaurants, a spa and a panoramic Sky Bar, offering views of Canary Wharf and the River Thames.

Standing at 19 storeys high and containing 453 bedrooms and suites, it was of paramount importance that the drainage system installed could be trusted not to leak, and so M&E Contractor, H.E. Simm & Son Ltd., approached Polypipe to manufacture a suitable solution.

As experts in providing intelligently designed solutions for the movement of water and air around tall buildings, Polypipe Terrain provided an appropriate system using Terrain FUZE HDPE. Made of high-density polyethylene, Terrain FUZE is lighter in



weight than cast iron equivalent systems and can therefore feature longer pipe runs, meaning less jointing is required. This in turn, provides less opportunities for the system to leak, making it ideal for the project.

As the system is jointed using electrofusion welding, where the weld area is as strong as the host material, system integrity is increased and consequently the risk of leaks in the development is further reduced.

With floor space in the centre of London at a premium, any ways to reduce the

footprint of the drainage within the building would maximise commercial space, a key consideration of H.E. Simm & Son Ltd. and the O2 Hotel.

Martin Thompson, senior project manager at H.E. Simm & Son Ltd., said: "The drainage system installed at the O2 Hotel needed to be considered and intelligently designed. The innovation displayed by Polypipe's Terrain system, including FUZE HDPE made best use of the available space."

Rebecca Harland, key account director at Polypipe Terrain, said: "At Polypipe we don't just supply pipes, we provide an intelligently designed Terrain drainage system, tailored to meet the end needs of the building. We pride ourselves on being experts in providing drainage within tall buildings and have worked on some of the most impressive buildings around the world. The O2 Hotel is another example to add to this list."

01622 795200 www.polypipe.com/terrain



Bison provides units for large Edinburgh development



A leading UK precast concrete manufacturer, Bison Manufacturing, has been appointed to provide its units for a new residential project in Edinburgh. Designed and developed by property developers, David Wilson Homes, the apartment block within the larger Liberton Grange development situated in Liberton, South Edinburgh, will consist of 32 flats, spanning across four floors. In its entirety, the Liberton Grange development will consist of 205 new homes, including one and two bedroom apartments, along with three and four bedroom homes. Having been appointed by David Wilson Homes, Bison will supply a total of 2852m² of their 200mm deep Hollowcore floor units, as well as two staircases which will span from the ground to the third floor of the apartment complex. Specified for the quality of its products, Bison's precast staircases also offer immediate access to upper floors during the construction phase. Bryan Galloway, construction director for David Wilson Homes, said "Having worked with Bison on numerous other projects, we are aware of the benefits of using their products." Work started in early 2015, with the development expected to be complete by June 2019.

01283 817500 www.bison.co.uk

Cambridge Blue



Richard Murphy Architects have created a new campus for Anglia Ruskin University, announced by a dramatic curved facade clad in tiered layers of Nordic Blue Living 3 pre-patinated copper from Aurubis. The phased development on the edge of a Cambridge conservation area sought not only to create additional education floor space but also to repair and reinstate a small piece of Cambridge's historic urban fabric. The 2nd phase building has been given a unique facade of copper cladding and a dramatic stepped roof profile, both to identify the lecture theatre volume within but also to signify the campus entrance at one end, whilst stepping down to the scale of neighbouring, Victorian terraced housing at the other. The three buildings comprising the new campus share the same external facing brickwork, structured by dark metal detailing. In contrast, vertical standing-seam cladding in pre-patinated copper from Aurubis accentuates the curved facades of the lecture theatre. Richard Murphy Architects' Nordic Blue is a factory-applied patina developed with properties and colours based on the same brochantite mineralogy found in natural patinas all over the world.

ROOFLIGHT

01875 812 144 www.aurubis.com/finland/architectural

New anti-climb system from Contour



'Eavesline' anti-climb system, a new heavy duty anti-climb fascia system, designed to protect rooflines from unauthorised access and vandalism is now available from Contour. With 'bullnose' panels manufactured from 3mm thick aluminium, the

fascia is particularly suitable for installation in environments such as mental health facilities. Key features of the system include an integrated internal framework ensuring a robust solution and a wide range of standard components allowing easy specification. A case study is available to download from the Contour website.

01952 290498 www.contourcasings.co.uk

Catalogue highlights basement



Transforming damp and dingy basements into comfortable living spaces is becoming more popular - thanks in no small part to the extensive range of products offered by Delta Membrane Systems. Over the years Delta has earned a reputation for being the 'one stop shop' for all things needed in basement refurbishment and new-build.

This includes a wide range of sumps, pumps and control technology - all of which is featured in the new brochure. This 36-page publication also features drainage channels and fittings, as well as giving a standard pump overview, and details of pump performance.

01992 523523 www.deltamembranes.com



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Pro-tecting green energy



A state of the art £165million Energy from Waste (EfW) plant in rural Worcestershire is delivering 'green' credentials, even to the roof. Building Envelope contractor Lakesmere is installing the roofing and cladding packages on the new

EnviRecover facility. To minimise the building's impact on the local environment, the external envelope is a tight functional fit to reduce the building footprint, the visual mass is broken up with stepped levels, and the roof is flat, covered with **Protan** SE1.2mm single ply membrane. Protan SE is A+ rated under the BRE Green Guide.

01925 658001 www.protan.co.uk

Spanish natural slate from Cembrit



An exquisitely designed home in South West London is crowned with a picturesque, multi-faceted roof turret that dominates the area's skyline, thanks to the installation of **Cembrit** Contessa natural slates. Roofing contractor, G.S. Roofing

installed 1,500 Cembrit Contessa slates on the turret of the property. Specified for its attractive, natural finish, Contessa slates have a textured surface, which complements the rustic appearance of the house. Contessa, one of the UK's leading specified Spanish slates, is produced by some of the most efficient quarries in Spain.

sales@cembrit.co.uk

Blackpool 'enhances' the Lake District



Blackpool engineering is helping Britain's most remote theatre expand its revenue streams. For Theatre by the Lake in Keswick's new £700,000 cafe, architect Aedas focused on a design that was sympathetic to the building's location.

Leading air movement specialist **Gilberts Blackpool** has delivered the natural ventilation strategy, focusing on three of its Mistrale WHF75 flanged high weather performance louvres, integrated at high level into the wall at the lowest point of the roof. Each of the louvres features Gilberts' integrated VN75 volume control dampers.

01253 766911 www.gilbertsblackpool.com

Urbanscape® from Knauf Insulation



Urbanscape® Green Roof from Knauf Insulation is a lightweight and easy to install system with high water retention capacity designed especially for green roofs on all flat roof types. Urbanscape is a complete system consisting of a root membrane, drainage system, Green Roll Substrate and a sedum-mix vegetation layer. The substrate

is the clever part, made of a unique binder free rock mineral wool. With a saturated weight of approximately one third that of soil based systems, Urbanscape has huge logistical benefits (one pallet of 20mm roll is equivalent to 14 tonnes of soil at 100mm).

info@knaufinsulation.com





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CEDAR CLUB
Timber panels supplied to health centre



sales@panelsystems.co.uk

One of the UK's leading panel manufacturers **Panel Systems**, has supplied timber faced insulated panels to the new £15m Eastwood Health centre in Glasgow. The panel manufacturer supplied over $140m^2$ of Aluminium insulated panels, which were clad with Siberian Larch to the front face.

The timber facing was given a special fire resistant coating, for added safety. The project required panels with protruding aluminium trays which were filled with insulation that was shaped by Panel Systems using its CNC equipment.

Kingspan on French Ministry of Defence



The optimum thermal performance and environmental credentials of **Kingspan Kooltherm** FM Pipe Insulation have been used to full effect at the French Ministry of Defence's new \notin 4.2 billion headquarters in Paris. Kooltherm FM Pipe Insulation was installed on hot and cold water pipework

networks throughout the development. The product's fibre-free insulation core delivers outstanding energy performance, with thermal conductivities as low as 0.025 W/m·K. It has also been awarded best-in-class Eurofins Indoor Air Comfort Gold certificate.

01544 388601 www.kingspanindustrialinsulation.com

Thermal break solution increases building envelope efficiency by 98 per cent



Thermal break specialists, **Armadillo**, has developed a new product, to improve the efficiency of wall assemblies and cladding structures by up to 98 per cent. The team has added the Armatherm[™] Z-Girt to its product range, which eliminates the use of highly conductive metal girts and aluminium brackets, that are responsible for heat transfer and energy loss through the building envelope. Using an Armatherm[™] Z-Girt has been proven to significantly improve the U value of a wall assembly, making the locations where the product is used up to 98 per cent efficient. Commenting of the new product, Jonathan Shaw, Armadillo's managing director, said: "We knew that we had something special when Armatherm[™] was developed, and we're pleased with how versatile our material has proven to be. Our expert team can provide Armatherm[™] to a variety of specifications, making it suitable for any building envelope application including roofing, foundations, wall assemblies, balconies and canopies. Having a thermal breaking solution that's high-load bearing and insulating is gold dust within construction, and we're keen to share its benefits with the industry."

sales@armadillonv.com



Innovative insulation technology used on luxury cinema

ork is well underway on the development of luxury cinema construction all over the UK. S and B EPS Ltd are delighted to be the manufacturing partner, alongside American company Stadium Seating Enterprises and EOMAC UK Ltd., providing state of the art DryFit[™] PREFoam[™] Stadium Seating Riser System solutions for the expansion of the auditoria seating areas.

The latest project located in the heart of Sheffield's 'The Moor' shopping district, will become host to a brand new, nine screen multiplex cinema, as well as accommodating a number of new shops and restaurants. The focus is to provide an opulent social hub in an area currently undergoing significant re-development.

Standing by his customer promise of 'you'll always have the best seat in the house', CEO of the Light Cinemas, Keith Pullinger insists that "every seat is designed to be extra wide, with a generous amount of legroom as standard". Customer comfort, well formulated sightlines and good disabled access are all a major consideration in the company's contemporary cinema experience.

Naturally, on a build of this scale, it was crucial to specify a rapid, yet robust method of construction for the expansion of the auditoria seating areas and Stadium Seating Enterprises' innovative DryFit[™] PREFoam[™] Stadium Riser System, installed by EOMAC Ltd and locally sourced and manufactured by S and B EPS, proves to be the perfect solution.

Supplied in various thicknesses and weighing an average of half a kilo per cubic





foot, the modular polystyrene blocks are 100 per cent recyclable and extremely lightweight, keeping manual handling to a minimum.

Pre-engineered in the United States and pre-fabricated locally in the UK, the EPS insulation is supplied cut to size and each piece numbered, so they can be easily manoeuvred through pedestrian doorways and areas still undergoing construction.

The polystyrene foam blocks are delivered per auditorium and are coordinated with the installation crew at EOMAC on site for a just-in-time delivery schedule to minimize downtime of the theatre and maximize efficiency of the installation. A full set of detailed shop drawings are prepared and supplied to the installing contractor by Stadium Seating Enterprises so they are aware of the intended location for each piece of EPS block.

Installation couldn't be simpler or quicker either. The pre-numbered blocks slot together like a jigsaw puzzle and are adhesively and mechanically fixed on the riser and tread of each level. EOMAC has experience installing these riser systems on multiple projects throughout the United States and Canada and has now brought this technology to the UK alongside Stadium Seating Enterprises, manufactured by S and B EPS out of Cramlington.

The insulation is then encapsulated in two layers of 18mm plywood, ready to accept the finished flooring surface.

A great plus point on these types of schemes is that because of the geometry of the blocks, the weight is distributed evenly across the surface and no point load is achieved.

S and B's Managing Director Darren

Smith, said: "This is a very exciting project for S and B EPS to be involved in and hopefully the first of many.

"Although the technology has been used on stadia seating across the United States for a number of years, it is still a unique concept in the UK. The collaboration between Stadium Seating, EOMAC and S and B has evolved over a period of four years, with much collaboration having taken place during that time.

"It's particularly satisfying that from a simple introductory Skype call, we are now manufacturing and witnessing the installation of their PREFoam[™] EPS systems on local UK based projects and theatres.

"The flexibility and speed of installation is absolutely key to this system's success. Since all systems are custom designed and manufactured for each individual application, the fact that they're of a modular nature means that they're ideal for either new construction or retrofit and renovation situations.

"Steel, concrete and EPS components can be made in virtually any height or depth and can easily be adapted to conform to virtually any platform design, shape or configuration in any cinema, theatre, lecture hall, worship facility or performing arts auditorium.

"The possibilities are endless and I've no doubt that this method is set to revolutionise the design and construction of staged seating projects in the UK in the future".

The Light Cinema, Sheffield, is due to open its doors in Spring 2017.

0191 250 0818 www.sandbeps.com

Schöck's latest thermal break innovation for Parapet Walls benefits architects

s with balconies, continuous parapets are prone to the problems of thermal bridging because energy is transferred through the thermal barrier. The conventional method of insulating parapets is to wrap the perimeter of the wall with an insulation barrier and, by wrapping the parapet, it becomes part of the heated building mass. However, the Schöck Isokorb type AXT provides a more thermally efficient and costeffective alternative. It sits outside the heated building mass, separating the parapet at ceiling level and thereby reduces the energy loss significantly. The Isokorb type AXT has an insulation thickness of 120mm, resulting in low psi values and tests show that the heat loss reduction is significant. Its Performance is also certified as suitable for Passive House design, therefore satisfying the most stringent energy standards. In addition, a recent independent construction cost comparison



was undertaken involving two parapets each 12.5m long. One was a conventional parapet construction detail and the second incorporated the Isokorb type AXT. This showed that in construction cost terms alone, the Schöck alternative comfortably achieved savings of up to 10 per cent, depending on the structure. Other benefits are that as no wrapping is required, the type AXT permits a more sophisticated construction opportunity with greater freedom of design. There is no risk of any additional thermal bridging through balustrade fixings, the solution is impermeable to water and requires no maintenance, so there is no risk of expensive restoration due to waterproofing problems. In addition to being a "Certified Passive House Component"; the AXT provides BBA Certification; LABC Registration; NHBC approval - and meets full compliance with the relevant UK building regulations and many projects in the UK are already benefiting from this exciting new innovation by Schöck.

01865 290 890 www.schoeck.co.uk



Kooltherm on fire station of the future



Avon Fire & Rescue Service is not only saving lives, but also energy and money with the construction of a new fire station at one of its existing sites in central Bristol, insulated with **Kingspan** Kooltherm K15 Rainscreen. Willmott Dixon are overseeing the design and

construction, alongside AHR and AECOM consultants. To keep running costs low, the energy performance of the building envelope was a key consideration. A target U-value of 0.23 W/m².K was set for the external walls of the building, without reducing useable internal space, Kingspan Kooltherm K15 Rainscreen Board was specified.

01544 387 384 www.kingspaninsulation.co.uk

Retiring in style with Kingspan



Residents at the Tennyson Wharf Care Home are enjoying seamless access to a recessed, marina facing roof terrace, thanks in part to the ultra-slim design of the **Kingspan** OPTIM-R Balcony & Terrace System. As residents have a varied degree of mobility, accessibility was at the

forefront of considerations during the design of the building. To achieve this on the recessed top storey roof terrace, whilst keeping the area well insulated, the Kingspan OPTIM-R Balcony & Terrace System was specified.

01544 387 384 www.kingspaninsulation.co.uk/optim-r

Stokvis 'H' Series serves the demand



Stokvis Energy System has responded to the increasing popularity of communal and district heating systems by offering its H-Series Econoplate interface units. There is a choice of single and twin plate units to provide heating and hot water services within dwellings such as apartments, student flats or around sheltered housing schemes. These in turn might be fed from a central plantroom – incorporating perhaps Stokvis

Econoflame Boilers, a Stokvis Solar Thermal System, combined heat and power (CHP) unit, biomass boilers or heat pumps.

info@stokvisboilers.com

Flexible HVAC for Jaguar Land Rover



AET Flexible Space, a leading provider of underfloor air conditioning systems has just completed commissioning equipment installed in the office area of the new Jaguar Land Rover

manufacturing facility at the i54 Business Park in South Staffordshire. The underfloor air conditioning system in the building is divided into four zones totalling a floor area of around 1274m². The conditioned air is fed into the 400mm plenum by four CAM-C 25 downflow units, and then supplied into the workspace via fan terminal units (Fantile).

01342 310400 www.flexiblespace.com



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Waterloo creates the right air flow



10,000 air distribution products from Waterloo Air Products, UK manufacturers of advanced air distribution and ventilation devices, have been installed in the new Francis Crick Institute. Waterloo's products play a big part in creating the right air flow,

to meet the conditions needed to carry out successful research in the state-of-the art research laboratory in central London. Waterloo's flexible 'special as standard' range of grilles and diffusers were ideal for the project. In total 15 different types of Waterloo air distribution devices were used throughout the building.

01622 711500 www.waterloo.co.uk

Smith's and MINIB on fan convectors



Smith's, one of UK's market leading suppliers of domestic and light commercial fan-assisted hydronic heat emitters is excited to announce their collaboration with MINIB, one of the leading manufacturers of fan convectors in the Czech Republic. This development is a further

demonstration of the Swan Group's ambitions for the business, since its full acquisition of Smith's earlier in 2016. The partnership with MINIB allows Smith's to broaden its portfolio of fan convectors in different strategic markets to grow both companies' commercial sales by co-promoting their products in their respective markets.

01245 324900 www.smithsep.co.uk

Shower down your tax bill



Did you know that the stylish Duso shower column from Horne Engineering can reduce your tax bill? If you buy an asset that qualifies for First Year Allowances, you can deduct its full cost from your profits before tax. The Duso is named on

the ECA Water Technology List as it is both water and energy efficient. A flow rate of 8 L/min optimally balances the need to conserve pre-heated water but still provide an effective shower. The auto shut-off prevents water wastage and the 60 second duration per paddle push also improves your customer experience.

01505 321455 www.horne.co.uk/products/duso

Trace heating design becomes easier



Pentair has launched a new online Trace heating system design tool for its range of Raychem pipe freeze protection, flow maintenance and hot water temperature systems. TraceCalc Pro For Buildings is an innovative platform which allows for multi-segment and multi-circuit heat tracing system design by engineers, specialist installers,

and designers. It is also compatible with desktops, tablets and smartphones. Requiring menu-driven data input and with no software to download, the platform is fast and features an easy-to use interface, providing useful product and electrical design information.

0800 969 013 www.pentairthermal.co.uk



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An integrated wetroom solution from Schlüter-Systems Ltd

hen it comes to long term success, possible time and cost savings and versatile design options for wetrooms, we recommend an integrated single-source system.

The beauty of the Schlüter®-WETROOM system is that its products have been designed and manufactured to complement each other and take care of installation issues, resulting in a reliable, water-tight finish which is CE marked and guaranteed to last for years to come.

A fundamental consideration is moisture management. Poor moisture management can cause leaks leading to damage in the surrounding structure and the potential for mould growth.

Heating under tile and stone coverings in a wetroom or bathroom, can be an extremely beneficial method of ensuring efficient heating, effective moisture management, preventing damp, mould and fungus by drying out any residual moisture, and providing comfort.

Under wall heating is a relatively new, innovative heating solution that not only offers a great source of heat but is also a safer alternative to a towel rail or radiator; particularly for children and the elderly. Under wall heating from Schlüter-Systems is a unique solution that is very easy to install and allows radiated heating underneath the tile, thus keeping the system protected and away from harm.

The electrical heating system for under tile and stone coverings, Schlüter®-DITRA-HEAT-E creates comfortably warm tile and stone coverings and can be used in wetrooms, bathrooms, en-suites and shower-rooms.

Schlüter[®]-DITRA-HEAT-E, has been updated with Schlüter[®]-DITRA-HEAT-TB matting. The patented Schlüter[®]-DITRA-



HEAT-TB thermal break enables significantly faster heating of floor coverings.

01530 813396 www.schluter.co.uk



BAL specified for Brimstone Spa



BAL – a market-leader in full tiling solutions – have provided a full system solution of adhesives, grouts and ancillary products for a luxury spa complex in the heart of the Lake District. Featuring stunning tiling throughout in a demanding environment, the new Brimstone

Spa complex at the Langdale Estate Hotel oozes elegance and sophistication. BAL Micromax2 anti-mould grout, with colour-matched BAL Micromax sealant, was specified throughout the project, is also specifically formulated with increased flexibility to cope in all environments including showers, wet rooms and heated floors.

01782 591100 www.bal-adhesives.com

Get creative with 153 new finishes



3M has launched 153 new on-trend patterns in its popular range of DI-NOC Architectural Finishes, a durable and cost effective solution for creating aesthetically pleasing environments without the expense of replacing fixtures or fittings. The range

now includes more than 800 patterns and effects, for almost every conceivable design requirement. The self-adhesive DI-NOC Architectural Finishes can be used to express corporate styles, modernise appearances and optimise interior and exterior assets for refurbishment and new construction.

01344 858000 www.3m.co.uk/innovativefinishes

Height adjustable toilet aids transfer



Transferring from a wheelchair to the toilet can be an overwhelming experience for many users. The installation of the **Pressalit Care** height adjustable Select toilet bracket can make the world of difference, not just from a practical and safety point of view, but importantly in retaining the dignity and

independence of the user. To meet with the requirements of the British Standard, toilets installed in bathrooms used by those with disabilities should be at the same height as a standard wheelchair, to limit the risk of falls. With the ability to raise or lower the toilet however, ease of transfer can be aided even more with the assistance of gravity.

0844 8806950 www.pressalit.com

Accessibility takes off!



New standards in accessibility are being set for air travellers with the opening of a new facility at Bristol Airport. The new Changing Places toilet in the main terminal goes beyond basic requirements in its suitability for use by people with disabilities,

by offering equipment above and beyond that specified in British Standards. In addition to the extra space, height adjustable adult sized changing bench and ceiling track hoist that are key to a compliant Changing Places, the Airport's further includes a **Clos-o-Mat** Palma Vita wash & dry toilet in place of a conventional peninsular WC.

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

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MODULAR SHOWERING SOLUTIONS



Specifying for high performance

Vernon Charles of Prospec offers a route through the specification minefield for washroom surface materials and storage

www.washrooms can boost brand identity and cement a business' reputation. But while manufacturers are ready to offer a wide range of solutions and design enhancements, it's crucial for specifiers to make the right choice regarding materials for the specific operating environment.

Materials choice is the main element that will ultimately determine the products performance and style. There are a wide range of panel materials offering different finishes and levels of performance, with laminated and single toughened glass and compact grade laminate the most often specified materials for cubicles and lockers in sports and leisure.

Unlocking the options

Glass has wide application and is particularly suitable for high-end facilities and finishes. It can be used for cubicles, lockers, IPS and wall panels, and even vanities; a popular choice for wet or dry areas in exclusive leisure centres, hotels, spas, golf clubs and offices.

Single sheet glass, often referred to as 'back painted' glass, has coloured ceramic paint applied to one side. The painted side would then be bonded to a substrate (e.g for IPS panels) with the opposite face being the final finish – hence the name 'back painted'.

Toughened and laminated glass is usually two sheets of glass bonded together with an ethylene vinyl acetate interlayer, which is coloured by bonding single ceramic painted glass sheets together. This process also allows the incorporation of hidden fixings, creates overlaps for a flush-fronted cubicle appearance and can provide a different colour for either side (achieved by bonding two different coloured sheets together).

Laminated glass is more durable in service and in the unlikely event of a critical impact one side it will often remain intact by 'holding' the damaged sheet safely in place.

If white or lighter colours are required,



it is important to specify low iron optiwhite glass that has a purer and easier to match colour. Standard float includes iron contamination that produces a green tinge, which can be difficult to match. Almost any RAL colour finish can be produced on glass, including patterns such as metallic and large format high-resolution bespoke prints. Glass panels must be finished with a radius or bevelled edge to eliminate sharp, square edges. All holes and cut outs must be predetermined before manufacturing, and it is vital that this is done before the 'toughening' process as glass cannot be reworked once toughened.

When faced with the task to fit out highusage facilities such as leisure centres, sports stadiums, prisons, hospitals or schools, specifiers can choose solid grade laminate (SGL). Also known as compact grade laminate, this material is extremely durable, vandal-resistant and impervious to water.

SGL is made of compressed sheets of kraft paper, impregnated and polymerised





within a thermosetting phenolic resin. The boards are available in a wide range of colours, sizes and finishes, and can be produced with decorative facings. While SGL has solid performance characteristics, its appearance has one key drawback – its resin core edge is always visible.

Stability

Within leisure, specifying a fully framed cubicle system is imperative. With the panels fully recessed into the framework, the panels do not support the system – instead, all of the weight is transferred through the frame to the floor, ensuring strength, rigidity and fewer visible fixings.

For example, this allows a bench to be safely cantilevered from the cubicle. Moreover, a fully framed system does not require any anchor walls or floor to ceiling posts to support it, making it perfect for island and back to back changing configurations. Specifiers can even reduce the number of foot fixings with a suspended cubicle system, which is suitable where underfloor heating or waterproof membranes are a concern, or where ease of cleaning is a priority.

Locking considerations

Wet lockers (aluminium carcass) are ideal for all environments and can be used with glass, laminate or real wood veneer doors.

Ventilation and natural drainage are important to ensure wet items which are being stored are allowed to drain, and a good quality two-part sprung hinge is also essential as this will ensure that locker doors open to a controlled aperture, and close safely and securely.

There are many lock options available; by far the most commonly specified within a leisure environment is the coin return lock which lends itself perfectly for multiple users. This year, a new $\pounds 1$ coin is being introduced, so it is critical that all coin locks in current use are checked to ensure they can accept the new coin. RFID (Radio Frequency Interference Device) locks can support both personalised and public use lockers, and can be activated with most building access cards, chips, or wristbands.

Accessibility

When specifying tier configuration, it is important to give consideration to the end user. A single tier and an unequal two tier allow for storage of prosthetic limbs and should be used in combination with wall mounted lockers to meet equality guidelines. Benches can be integrated with the locker either underneath or to the front of a 'welled' system. A concrete plinth is by far the most common solution for a wet public area; however, aluminium plinths are a popular alternative allowing for adjustable heights and can be faced with a matching laminate to ensure no dirt or dust traps are created.

Sustainable materials are also penetrating the market, with specifiers increasingly looking at eco-friendly choices for lockers and cubicles and taking interest into our FSC-accredited range and the related chain of custody documents.

Vernon Charles is sales and marketing manager for Prospec

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Silentflor – design led acoustic flooring



Polyflor is pleased to announce the launch of Silentflor PUR, a collection of heavy commercial sheet vinyl flooring with acoustic properties, available in a variety of high design wood, concrete and abstract effects. Silentflor is a robust, beautifully designed collection that achieves 19dB

impact sound reduction and has been expertly created for a wide range of commercial interiors, such as installations in the healthcare, office, education, residential, retail and leisure sectors. Made in the UK, this flooring range includes 36 stunning designs.

0161 767 1111 www.polyflor.com

Neaco decking provides cycle park



Neaco's Techdek aluminium decking has been specified for an innovative internal cycle park at the XYZ building, a cutting edge workspace in Manchester designed by Cartwright Pickard. Robert

Phillips, Associate at Cartwright Pickard, said: "We specified Techdek for the cycle ramp due its robust construction and the simplicity of its design – the modular nature of its construction, its excellent drainage capabilities and the ribbed profile for surety under foot. Its track record of being used on similar, high profile projects gave us the confidence that the product was suitable for the application."

sales@neaco.co.uk

Altro XpressLay at 27 new schools



The proven cost and time saving credentials of award-winning **Altro** Looselay[™] technology has lead to Altro XpressLay[™] safety flooring being selected for installation in 27 new schools being built in the North East of England. The range

boasts 42 colours, featuring bright and subtle, sparkle-free designs and decorative chipped options. The Altro XpressLay palette matches with Altro Walkway[™] 20 safety flooring, enabling both ranges to be combined to suit the application. Altro XpressLay also features Altro Easyclean technology with superior chemical and stain resistance.

01462 480480 www.altro.co.uk

Primo Kn prescribed for School



The School of Pharmacy, part of University College London is one of the most highly rated pharmacy schools in the UK. As part of a refurbishment project, architects Potter Raper Partnership specified **Kemmlit's** recently launched Primo Kn cubicles for the male and female student toilet facilities. With smooth-surfaced doors in lemon green and contrasting quartz grey walls made of 42mm thick composite elements with

internal aluminium frames, the Primo Kn cubicle system was installed by Kemmlit's own specialist contractors.

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Mapei present new grout colours for 2017

5 1 grout colours were unveiled by Mapei at Cersaie 2016. The new range of colours called 'Set the mood' is divided into five collections: Serene, Traditional, Natural, Romance and Glamour, making it easier to choose the right grout according to the requirements of each tiling project and personal preference.

Innovation through Research & Development is always at the forefront of Mapei's philosophy; the recent additions to the Coloured Grouts range were developed using a sophisticated 3D imaging programme. With the latest tile design trends in mind, Mapei are the first company operating in the ceramic sector using 3D imaging to study and develop the Coloured Grouts portfolio.

This cutting edge research has enabled Mapei to develop a new colour chart comprising of five coloured grout collections, each with its own unique personality. With 16



different products available in 51 shades, the collections help simplify your search for the best results, ensuring complete client satisfaction.

With the latest design choices in mind, Mapei's Kerapoxy CQ coloured grout in shade 183 'Lime Green' is a matching shade with the Pantone 'Greenery' colour, perfect for refurbishment projects and new installations alike in residential and commercial buildings. Pantone's colour of the year sets the trend for 2017, 'Greenery' is evocative of new beginnings. Pantone invites consumers to "immerse themselves in the physical beauty and inherent unity of the natural world." Mapei's Kerapoxy CQ grout is a two-component epoxy grout, easy to apply and with excellent cleanability due to innovative BioBlock[®] technology.

Whether you prefer complementing your tiles with a harmonized or a contrasting Coloured Grout, Mapei's Coloured Grout Collection adds a special finishing touch to any tiled surface allowing the client to personalize their space, setting the desired mood.

Contact Mapei UK for more information on using coloured grouts in your project.

0121 508 6970 www.mapei.co.uk



A new chapter for Altro



Altro has unveiled a bold new look to support its exciting vision of the future. A new customer website, logo and brochures demonstrate a visual change and improved customer experience, but the flooring and walling specialist's new brand represents far more – a new chapter for a global company with a humancentred approach to designing products with the

potential to revolutionise people's experience of the spaces they use. There will be no change to the high levels of customer care, technical knowledge and product innovation that Altro is renowned for, but 2017 will see some exciting developments.

01462 480480 www.altro.co.uk

Polyflor flooring adds urban edge



High-design concrete effect safety flooring from commercial vinyl flooring specialists **Polyflor** was recently used at BMet college in Birmingham to create a fresh look for their reception area, common room and canteen. Safety flooring from the Polysafe Arena PUR collection was installed at the

Further and Higher Education College's Matthew Boulton campus by local flooring contractors Top Mark Ltd. The Polysafe Arena range replicates on-trend stone, textile and abstract designs including this Dark Concrete design.

0161 767 1111 www.polyflor.com



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The champions of workplace branding



Workplace branding was a key consideration for **Boss Design** when approached to supply a range of furniture, seating, and meeting solutions for the refurbishment of the six-floor offices of Arthur J Gallagher in Lombard

Street, London – one of the world's largest insurance brokerage and risk management companies. Across four floors of the building that are home to the non-AJG brands, a fusion of colour, materials and furniture was introduced to reflect the individual schemes – purple for Pen Underwriting and orange for Alesco.

sales@boss-design.co.uk

Space saving staircase specification



Premier Loft Ladders have made specifying your next space saving staircase easier than ever before. 'Compatta' product data is now available within NBS software. The Compatta is not only one of the finest quality space saving staircases available, but also very easy to install. It is therefore the ideal solution for loft

conversions or mezzanine floors where space is limited. To help architects and designers, Premier Loft Ladders has made technical data for the Compatta staircase available within NBS specification software. It can be found within sections L30 and 30-05-40.

0845 9000 195 www.premierloftladders.co.uk

Maplin – Store of the Future!



Throughout 2016 Luceco worked in parallel with Maplin Electronics to realise its lighting refurbishment project, playing a key role with the design and supply of LED energy saving luminaires to the group. Converting much of its store estate, the project included the need for better lighting within its stores and lower energy costs. With the roll-out now complete, the finance team at Maplin reported an increase in the original energy consumption savings above predicted levels. Luceco are now proud to have recently supplied luminaries for another significant project – Store of the Future. The Luceco lighting design team was tasked with designing an LED lighting solution using the proven recessed and highly efficient Luceco LED Panels. The design also called for lighting solutions to suit various areas in the store including Consultation and Gaming rooms, Home Entertainment, Play, Smart Life and Home Office. The key products used were 1200x600mm high output backlit panels for the high lighting levels required and platinum downlights with brushed steel bezels in the Consultation and Gaming rooms.

01952 283100 www.luceco.uk

Celestial LED lighting from Luceco



Celeste is an attractive new circular LED luminaire from Luceco featuring a 'corona' backlight effect with a direct / indirect light distribution. The Celeste is ideal for many commercial and residential lighting applications boasting a market leading efficacy range of Llm/w 107. The backlit accent effect is available

in red, yellow, green and blue plus a choice of decorative bezel trims including white, brushed chrome and steel finish. The luminaire can be surface, wall mounted, or suspended using a three point 1.5 meter suspension kit, an attractive 'heavenly' pendant.

01952 238100 www.luceco.uk

Designer banks on Hunter Douglas



Hunter Douglas Architectural completed a UK first as part of a major Bank of East Asia (BEA) refurbishment at its Shaftsbury Avenue branch in London – manufacturing and supplying a multi-panel ceiling, with multiple widths and depths. The 150m² multi-panel ceiling system comprises

box-shaped panels in two different widths and lengths of between 1500mm and 4000mm. Manufactured from lightweight, yet strong aluminium, the ceiling included plain and perforated panels of 80b and 180b, and the 20mm joint was filled with a V-shaped joint profile.

01604 766251 www.hunterdouglas.co.uk

Armstrong showcases European projects



Proof that ceilings are no longer an afterthought in the design and build process is contained within the glossy new *A Book for 2017* from **Armstrong Ceilings**. While they hide unsightly soffits, reflect light, help to control the air quality, acoustics and temperature of a building space, and resist bacteria, ceilings are now all this and so much more –

stunning designs guaranteed to inspire no matter the environment. And those stunning designs, are showcased within the 82-page coffee table-style brochure that snapshots projects from the retail and leisure, education, office, healthcare and transport sectors throughout Europe.

01895 251122 www.armstrong-ceilings.co.uk

Lustrolite® – beautiful splashbacks



A brand new brochure from Abacus Manufacturing Group explains everything you need to know about Lustrolite, a leading name in acrylic high gloss wall panelling. Lustrolite is an advantaged multi-layer acrylic sheet that looks just like glass, weighing less than a quarter of a traditional glass sheet and while boasting 20 times the impact strength. Lustrolite applications include shower walls, bathrooms and

kitchens. The colour is permanently fused to the clear layer and cannot be separated by moisture. Its unique hard coat makes Lustrolite easy to clean and highly resistant to scratching.

info@lustrolite.co.uk

Securely in control

Electronic access control systems can enhance security by offering a centralised solution to building management. Systems manufacturer Paxton explains further

The protection of employees and assets is a priority for any business, so an adequate access control system can go a long way to addressing common security concerns in workplaces.

With straightforward solutions, such as IP-ready access control systems that connect directly to the local network, you don't have to be an IT expert to take advantage of the benefits of enhanced building security.

The technology can also be integrated with a range of third-party systems, such as CCTV, biometrics or fire and intruder alarms, offering a cost-effective centralised solution to building access management.

Advantages

Networked access control has several benefits over using traditional lock and key, with an important factor being that numerous security functions can be centrally and conveniently managed on a computer.

These functions include controlling the flow of people in a building or restricting access to certain parts of it; switching utilities on or off to save energy; or generating attendance reports. Moreover, unlike physical keys, electronic access control tokens can easily be barred from the system if they are lost, stolen or unreturned.

Access control software can also be used as an effective human resources tool that can generate attendance reports. By allocating specific token readers for clocking in and out, the software can be used to log the working hours of employees, note periods of time out of the office during holidays, appointments or unpaid leave. Reports can then be exported for use with a variety of HR applications and be used for monitoring.

Universal management

Many systems are easy to manage from anywhere. Access control can be centrally managed on-site from a computer or remotely through an internet-connected device, making it a truly versatile building management solution.

Some access control software solutions allow system administrators to grant varying permissions to different users. This might be used for the benefit of health and safety requirements – like preventing untrained staff from operating certain machinery – or to stop people from accessing restricted areas, thus reducing the potential risk of accident to staff and visitors.

Since access control systems can determine where people are within a building, they can be used to identify key areas of footfall and switch lighting or heating on or off as required in order to increase energy efficiency.

Systems can also carry out a range of functions that are beneficial to a business's duty of care to its staff. This includes automatic generation of a roll call report in the event of a fire or provide DDA compliance through hands-free access control for wheelchair users, and hygienic contactless access for healthcare facilities.



ABOVE An example of an electronic entry panel © Paxton

Electronic access control tokens can be barred from the system if they are lost, stolen or unreturned





Systems include readers designed to be aesthetically pleasing or cleverly disguised, including discreet tokens or wireless products © Paxton

Advanced control

High security options are available for specific applications, such as biometrics – an authentication method that can uniquely recognise an individual based upon one or more biological characteristics.

Examples include fingerprint, face recognition and retinal scanners. Biometric readers can be integrated with access control, to enhance the security of existing systems.

Advanced access control systems can include unique physical identification, enhanced security options including multifactor authentication, security lockdown and Near Field Communication (NFC). This can be particularly beneficial for sites with specific access requirements such as hospitals and schools, providing extra options for identification via phones and smart devices.

Access control can offer a variety of readers suitable for new sites as well as retro-fitted and historic buildings. Access control products can also include readers designed to be aesthetically pleasing or cleverly disguised, such as discreet tokens or wireless products.

It is important to ask the right questions in order to specify a system that matches your access requirements – whether that is a secure barrier in the car park, a video entry system, a secure external door with handsfree access or an integrated solution.

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Boon Edam's entry expertise ensures a bespoke solution for Camden Council

amden Council's new 14 storey building, 5 St Pancras Square is host to council offices, a leisure centre, cafe and a library. This innovative building is classed as one of the leading green buildings in the UK; having achieved an 'outstanding' BREEAM sustainability rating. Every part of the design required careful consideration to achieve this rating. So, when selecting the door entrances for the award-winning building, Boon Edam, a global market leader in entry solutions was consulted.

The entry solution needed to fit the building's sustainability, security, service and design criteria to seamlessly integrate with the existing design. With 140 years' experience and a portfolio of products to accommodate a range of entry requirements, Boon Edam's experts were able to provide the ideal solution using the Circleslide product range.



Not only did the product successfully integrate with the building's design; but it was also able to mitigate any concerns regarding energy loss.

The Circleslide, consists of two sets of curved automatic sliding doors. This selection

ensured that the elegant rounded look of a revolving door was achieved, along with meeting the high capacity throughput demands; realised by a wider throat opening design. This design of door is also DDA compliant in order to provide disabled access without the need for a separate pass door to be installed; this was a key criteria for the council building. The technology incorporated into the product's mechanism ensures extremely quiet and smooth movement of the doors, whilst the air curtains installed inside the building lobby are designed to effectively reduce the air exchange and infiltration at entrances. This ensures that the entrance lobby can regulate the internal temperature as part of the building energy efficiency.

01233 505 900 www.boonedam.co.uk



Nullifire for Greece's National Library



Designed by architect Renzo Piano, the new Stavros Niarchos Foundation Cultural Centre (SNFCC) in Athens has created homes for the National Library of Greece and Greek National Opera. With significant steel structures involved, Nullifire

SC902 Fast Track, On-Site Intumescent Steel Coating from tremco illbruck was used extensively to provide passive fire protection. Nullifire SC902 is a low VOC, one coat, high build system, based on patented technology. It provides a fast cure, effective structural fire performance for steelwork with a fire rating of up to 120 minutes.

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Fifty shades of green

Green roofs have proven benefits but care must be taken when choosing from the different types of systems available, says ZinCo director Fabian Kaiser

From creating green havens in concrete-dominated cities to safeguarding the waterproofing system of a building, the benefits of green roofs have been widely recorded.

In terms of their ecological benefits, green roofs can cool and humidify the surroundings, significantly reducing the so-called urban heat island effect in urban areas. Moreover, landscaped roofs compensate for green space lost during construction and can offer additional recreational space in densely populated areas.

While green roofs provide natural habitats for wildlife, they can also absorb fine particles and enhance acoustic and thermal insulation to improve the building's energy performance. These systems are economically viable to install as they can reduce maintenance and running costs by protecting the waterproofing from extremes of climate, and mechanical damage.

Another key benefit is green roofs' moisture-retention quality, which allows for time-delayed run-off of excess water, greatly reducing drainage flow rates. This quality can be of particular importance to towns and cities facing the challenges of increasing amounts of heavy rainfall, which can result in flooding or even cause overloading of the public sewer system.

Form factor

Hardly any other roof shape allows for such a variety of roof greening as does a flat roof. However, even sloped roofs with a pitch of up to approximately 35° can be 'greened.'

There are two types of green roofs: extensive and intensive, offering different benefits. An extensive green roof may cover a large area, but can be installed and maintained at a relatively low cost. The layer depth is approximately 50-150 mm and the weight is low at between 60-150 kg/m², while the plant communities used – including renewable succulents (sedums), mosses, grasses and herbage – can survive with little upkeep. Nevertheless, the roofs have to be accessed once or twice a year in order to inspect drainage and ventilation equipment and, where necessary, remove wild growth.

In addition to their conventional use, extensive green roofs can produce synergy effects when used in combination with solar energy; this can be achieved as the systems' comparatively low ambient temperature can improve the efficiency of photovoltaic modules.

Intensive green roofs, also referred to as landscaped roofs, can provide the same range of landscape design available at ground level. Lawn, perennials, shrubs and trees grow in layer depths of between 150 and 1000 mm, very often in combination with pathways, terraces, patios, play areas and water features. Even driveways such as that over an underground car park can be created with the appropriate structural support.

Between the layers

A green roof system consists of a number of layers and each has a unique function. The base layer is always a waterproofing membrane. This layer must be root-resistant, which must be achieved through the installation of a separate root barrier. The first layer of the build-up is a high-grade protection mat protecting the waterproof membrane from mechanical damage.

This is followed by drainage elements that retain rainwater in their water retention cells and drain surplus water through the underlying channel system to the roof drains. Depending on roof structure and green roof requirements, the drainage elements will vary in terms of height, weight and material.

Where the drainage elements are installed across the whole area to be greened, this allows for drainage of the entire area, even beneath pathways and terraces.

The drainage elements can also serve as a permanent formwork for anchoring stonewalls or play equipment.

On top of the drainage layer, a filter mat is installed retaining fine particles from the



Green roofs can reduce maintenance and running costs by protecting the waterproofing from extremes of climate, and mechanical damage

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A key benefit is green roofs' moistureretention quality, enabling time-delayed run-off of excess water

overlying substrate layer. This substrate layer is composed of mineral and organic materials specifically adapted to suit the planned vegetation. The plants provide the final layer.

Attention to pitched roofs

Pitched green roofs require extra scrutiny from installers due to a number of requirements. Shear forces have to be transferred into stable eaves edges and additional shear barriers may have to be installed to prevent the green roof build-up from sliding. In addition, specialised drainage boards need to be used to help retain the soil substrate, substrate layers need to be increased and additional irrigation might be necessary. Then there is the question of maintenance – the right selection of plants has to be taken into account from the beginning.

To meet these requirements for pitched green roofs, professional planning and execution is essential while the use of tested and proven pitched green roof system build-ups is indispensable.

Advanced water retention

As mentioned previously, water retention is one of the major benefits of a green roof. However, water storage in a standard green roof build-up cannot be increased arbitrarily, since more water could result in changes to the vegetation.

For this reason, and to counteract the increase in heavy rain events as a result of climate change and the consistently high level of soil sealing, so called storm water management roofs have been introduced to the market.

Due to an extra layer of spacer elements underneath the standard green roof build-up, the storm water retention capacity can be increased by a multiple. This means water can be stored for a prolonged period of time, from 24 hours up to a few days, and reused in intelligent ways.

Fabian Kaiser is director of rooftop landscaping specialist ZinCo Green Roof Systems

Polypipe provides flood alleviation for retrofit scheme at 'lost' London river

A nambitious pilot scheme designed to combine engineered and soft SuDS solutions to alleviate the risk of flooding from west London's combined sewers has seen Polypipe's Permavoid system used to create two unique shallow stormwater drainage systems that are sensitive to their environment. A third scheme will begin this autumn using Polypipe's Permavoid system to complete the project.

The project, overseen by Thames Water in partnership with the London Borough of Hammersmith and Fulham and the Royal Borough of Kensington and Chelsea, will see SuDS solutions retrofitted into a highly urbanised area, in order to potentially mitigate the risk of surface water flooding during periods of heavy rainfall across the Counters Creek catchment area.

In order to assess the varied approaches SuDS can offer, the project saw three scheme sites identified where a number of differing surface water management systems could be utilised in combination with their surroundings. The three 'typical' London streets selected met Thames Water's criteria of being hydraulically discrete and having suitable monitoring points to measure the system's effectiveness.

The SuDS pilot scheme retrofitted in the three streets of the two boroughs will limit, as far as possible, the volume and rate at which surface water enters the public sewer system. Monitoring performance in the three streets should provide evidence to show whether these systems provide a viable solution that could be applied across a wider area.

Polypipe's Permavoid geocellular system was used to create part of an engineered stormwater solution for each of the selected locations: Mendora Road in Fulham, Melina Road in Shepherd's Bush and Arundel Gardens in Kensington. These three separate solutions have been developed with specific



focus on their particular environment. The retrofitted SuDS scheme at Arundel Gardens in the Royal Borough of Kensington and Chelsea will be built this autumn in collaboration with the council and their contractors.

The third further environmentally sensitive system design incorporated as part of the pilot project will see Permavoid installed beneath the road surface of Arundel Gardens, with the established magnolia trees on each side of the road benefitting from a passive watering system that uses some of the stored rainwater from within the attenuation crates.

01709 770000 www.polypipe.com/wms



Wallbarn launches its new 2017 brochure

allbarn has released a new brochure for 2017 detailing its latest products as well as its existing product library.

Mini Megapads for paving and TD Mini Megapads for timber decking

Brand new for 2017 is an ultra-low but fully adjustable pedestal for paving slabs. This Mini-Megapad is a completely new design of pedestal, able to reach as low as 10mm in height and still be adjustable by hand. Both Mini Megapads at 10-20mm are available as Mini Megapads for paving and TD Mini Megapads for timber decking.

Megapads for paving

Megapads for paving and TD Megapads for decking go up to 1020mm now. They are extremely tough and hard wearing with a weight tolerance of 800kg.

Balance pedestals

Balance adjustable pedestals with a self levelling head for paving, taking out up to five per cent fall in the subdeck surface.

Metal edging plate for paving

Wallbarn is introducing a new tool in 2017 to help installers of paving set their slabs directly up to the wall. The new Metal Edging Plate is a supporting beam which is laid onto the headpiece of ASP or Megapad pedestals to support the end paving slab when it is butting directly against the wall or parapet.

EasyClick

EasyClick is the ingenious new way to install top quality decking on flat roofs, balconies and walkways. The most luxurious, blemish-free DURO Excellence composite and hard wood timber is fitted up to five times faster than traditional methods. The



underside of the deckboards have been pre-grooved, so each board clicks into the bracket beneath and it clicks into place.

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EasyChange is the new alternative design for fitting these types of decking board. If users need to access the deck at intervals after installation, then EasyChange is the perfect solution. The EasyChange system has specially designed clips to hold the deck boards in place and by using a special key (supplied), the installers can remove any/all of the boards easily at a future date. Both EasyClick and EasyChange can be installed with tropical hardwood as well as the composite material. Go to **www.wallbarn.com/downloads** or call Wallbarn sales office for a hard copy.

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