

THE ARCHITECTURAL TECHNOLOGISTS BOOK



NOVEMBER 2020

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Front cover image courtesy of AURUBIS - www.nordiccopper.com
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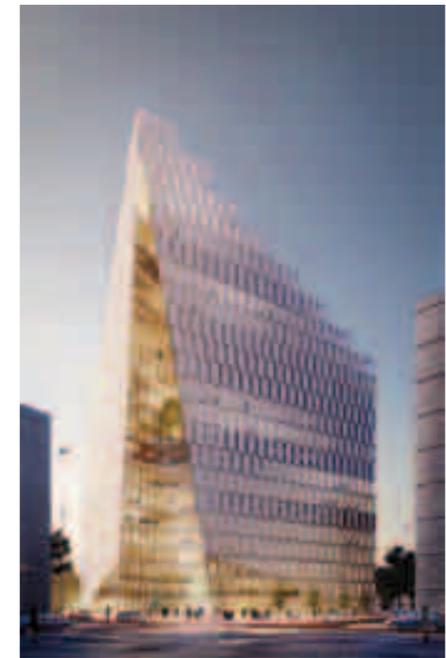
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MARIO CUCINELLA
ARCHITECTS
CREATES AN OASIS
IN TIRANA WITH
NEW STATEMENT
EKSPOZITA BUILDING

The building rises to a maximum of 24 storeys, peaking at the rear in a way that refers to the nearby Mount Dajti and to other Balkan Mountains. The result of its unusual geometry is that the ground floor of the building, plus another much smaller two-storey building which will be used as a nursery/kindergarten, occupies only 44% of the plot.

As the building rises upwards, it withdraws back into itself, creating the smaller footprints that are most suitable for residential use. A 'notch' in the rear of the building provides a diagonal route through, dividing the two sides of commercial development on the ground floor and offering permeability to the site. www.mcarchitects.it/en/



M

ario Cucinella Architects (MCA) has received the go-ahead for Ekspozita Building, a new 93m tall mixed-use statement building in the centre of Tirana, Albania, comprising commercial, residential and public amenity spaces. The building's unusual form allows it to partially encircle a generous new green space that is particularly valuable in a busy capital where open areas are few and far between.



Generous planting to the residential upper floors enhances the sense of a green oasis, while the inward-facing balconies give a feeling of enclosure and protection from the busy city. Cutting off angles on the corners of its rectangular plot to create yet more public spaces, the building occupies three and a half sides of a square footprint,

opening its courtyard up to the south, onto the tree-lined Blv Gergi Fishta - one of Tirana's major roads.



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MODERN SPECTACLE MAKER CUBITTS REVEAL NEWLY- REFURBISHED BOROUGH STORE INSPIRED BY RELIGIOUS ARCHITECTURE



CUBITTS continues to open its nine London stores after months of lockdown. Their Borough store, on the historic Park Street, has had a complete renovation inspired by places of worship. The store's site was once the Borough Market Mission Hall and served as a church for the local market workers. Founder Tom Broughton said, "The site was once a place of worship, so we wanted to celebrate its former use through our ecclesiastical design while elevating our own deity - the humble pair of spectacles."



Cubitts brought in designer Deidra Hodgson to work on the re-fit. Hodgson's aesthetic comes from an anthropological approach, ensuring there's a feeling of warmth, but not at the expense of functionality. Hodgson said: "Taking inspiration from the divine symbolism of the ziggurat, geometry of Modernist churches and Wolfgang Laib's work, 'Without Beginning and Without End', the store evokes its previous life as a mission hall while creating a myriad style framework for its new inhabitants."

Taking the ecclesiastical theme as a reference point for its refurbishment, the central focus of the store is a custom-built wooden point of sale inspired by the angular altars of Modernist churches around the world. The frame displays are based on the ziggurat, an ancient structure first constructed by the Mesopotamians to raise their temples closer to the heavens and therefore closer to the gods. At the back of the store, a confessional window allows penitents to bring their broken frames for Cubitts to repair, reglaze, or refurbish. They'll even give them a hydrosonic clean to wash away their sins.

Elsewhere a donation box is on hand for kind souls to drop off their old frames, which Cubitt will polish up and recycle, donating them to eye health charities that they work within Kenya and Ethiopia. Inside bold primary colours abound, a colour palette also was chosen after extensive research into the design details of Modernist churches. The exterior, however, remains its signature vivid yellow shade - a nod to the store's previous incarnation as a banana and potato wholesaler. www.cubitts.com

'INSIDE OUTSIDE' KITCHEN, DESIGNED AND INSTALLED BY BRANDT DESIGN



Ultramodern and 100% family oriented, this open-plan kitchen provides an efficient way to blend cooking and entertaining with the outside garden space, offering a streamline arrangement of custom furniture, which is available from the Urban Collection by Brandt Design. With plenty of natural light able to cascade into the kitchen area, its open footprint and rich material selection is well-placed to capture the sun all year round and emphasise the dynamic combination of Vintage Oak, Matt White and Putty Concrete Graphite Urban furniture.



Scott Davis, Director, Brandt Design, says "This project required careful planning as the kitchen was a key part of a dual aspect extension at the back of the house, where the clients wanted maximum light whilst retaining their privacy. Having a blank canvas for the exterior wall meant that we could add gravitas and create a pillar-effect with tall storage units in a dark colour."

"The concrete-effect brought a subtle textural detail to contrast with the warmth of the wood flooring and oak breakfast bar. We were also inspired by the industrial feel of the steampunk-style fixtures and fittings, and therefore wanted to link the suburban location with city life and the great outdoors. Clean lines and extensive storage solutions were a necessity for this family home, ensuring a well-organised kitchen that easily accommodates a practical work space and high foot traffic."

The efficient U-shaped kitchen layout offers a dedicated cooking wall with integrated induction hob with practical wok burner and set of double built-in ovens. To the left, we designed a discreet wet zone which the family use as a dedicated coffee station and open shelving creates much needed storage in close reach. Complete with a compact one bowl sink and single lever kitchen tap, this area provides an extra area for family members to use without impacting the main cook zone or chef working behind the island.



The generous central island unit incorporates space for up to five to dine at a tactile L-shaped oak breakfast bar, with designer high-rise bar stools for the ultimate design statement. A built-in wine cooler is ideally placed at the foot of the island and integrated larder storage, low level drawers and space for a built-in fridge freezer make-up the remaining run of cabinetry.

The main sink area is located on the right hand side of this kitchen, beneath a large kitchen window. This long stretch of worktop features a double-bowl stainless steel sink with c-spout kitchen mixer and pull-out spray and below, an integrated dishwasher for the height of convenience.

"We recommended a dark grey concrete-effect finish for this kitchen as it gives our Urban Collection of furniture a contemporary feel that contrasts with the light accent colours throughout. Bringing an extra level of radiance, the smart run of top units in white above the hob blend with the splashback and worktops, which are specified in Ice White Quartz." www.brandtdesign.co.uk

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PANORAMIC VIEWS OF LONDON FROM 'THE HAMPSTEAD PENTHOUSE' BY UNGAR ARCHITECTS

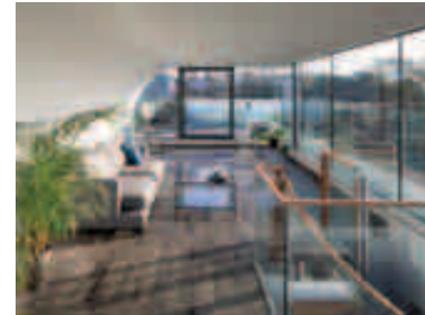
London-based architecture practice, Ungar Architects, has completed the creation of a breathtaking new penthouse in Hampstead, with panoramic views across the city.

The clients, a young family of three, welcomed the transformation of their home with open arms, as an opportunity to create a peaceful retreat above the city - an 'urban treehouse' - which they could use as a living room and adapt to use as a pilates studio when required.

The project is situated in Hampstead, North London - atop a block of flats built in the early '90s. The clients live in the top floor, three bedroom flat and own the large flat roof above, affording the opportunity to extend upwards.

Ungar Architects was appointed to create a rooftop extension to take advantage of the views and to create a large patio area around it. The challenge was to take advantage of the views outwards towards London but to minimise the views towards it. Its prominent location in relation to the other flats in the development also meant that the rear of the structure needed to be solid, but the other three sides could be glazed. Its set back and height were also critical in relation to views from further afield. The final design is a floating curved structure which assists with the set back, and softens the visual impact of the extension.

Ventilated zinc is used across the roof with minimum falls to keep the edge profile as thin as possible. The steel structure was welded and test on site in order that the materials could be reasonably hoisted to the roof at fifth floor level. With sweeping vistas on three sides, the fully enclosed rooftop lounge and surrounding patio adds extra light, space and beauty to this property and a much-needed place for retreat and contemplation during these uncertain times. Director at Ungar Architects, Peter Ungar, said: "This project has been both a challenge and a delight, and the studio was really excited to undertake the commission for an unusual and contemporary building which takes full advantage of its location and transforms our clients' home." www.ungararchitects.com



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NEWS



INNOVATIVE NEW PRODUCT BRINGS INTERLOCKING WALL SYSTEMS TO THE UK

EverBlocks, a global leader in modular building systems, will bring a brand new product that makes it easy to build and dismantle walls quickly and easily, with no tools, no mess, and no hassle to the UK. The innovative EverPanel temporary walling system is designed for both commercial and residential spaces, generating self-supporting, self-standing structures that economically divide spaces, create rooms, and define areas as and when required.



The unique interlocking modular wall system is made up of durable, lightweight panels that simply snap together using a proprietary lug and connector system, with no tools or cement required. Panels can be fitted in a straight line or at a 90 degree angle to create corners, and can be stacked and layered to build to the desired height. www.everpanels.co.uk

INDEPENDENT TESTING BODY CONFIRMS AIRTIGHT MEMBRANE PERFORMANCE

Wraptite®, the only self-adhering vapour permeable air barrier certified by the BBA has successfully undergone independent testing to confirm its performance compliance with the requirements of the current standards on airtightness as outlined by the Centre for Window and Cladding Technology (CWCT). Testing was carried out by Wintech Testing & Certification, an independent UKAS accredited testing laboratory and certification body.

In all cases, the product passed the tests and achieved results which were significantly below the permissible values for air leakage as outlined in the CWCT standard. By reducing the likelihood of potential failures to meet designed airtightness levels, the Wraptite System helps ensure “as-designed” performance, narrowing the performance gap between as-designed and actual energy performance.

Unlike internal air barriers, which can be complex and costly to install due to the need to accommodate building services such as electrical, lighting, heating and drainage systems, positioning the Wraptite air barrier on the outside of the structural frame also simplifies the process of maintaining the envelope’s integrity, as there are less building services and structural penetrations to be sealed. www.proctorgroup.com

CUPA PIZARRAS' ICONIC HOTEL PROJECT WINS ROOF SLATE AWARD

A prestigious CUPA PIZARRAS project, Henderson House, has won the Slate Roofing category at the NFRC Scottish



Roofing Contractor Awards. The CUPA PIZARRAS project, submitted by roofing contractor Avonside Roofing, won the Slate Roofing award for the refurbishment work carried out on Henderson House.

After establishing that the existing slates were not salvageable, Avonside Roofing recommended CUPA PIZARRAS' Heavy 3 slate as the ideal replacement for the previous slate used on the property. www.cupapizarra.com/uk

STANLEY SECURITY LAUNCHES REMOTE GUARD

STANLEY Security, one of the UK's leading security providers, has extended its range of remote services with the introduction of Remote Guard. Remote Guard uses a clever combination of CCTV, access control, intercoms and remote monitoring to take over the duties of security guards, all at a fraction of the cost.

At the heart of Remote Guard is STANLEY Security's Category 2 NSI Gold Standard BS5979 accredited monitoring centre, where highly trained professional operatives use electronic security systems on customers' sites to remotely conduct security guard tasks such as visitor validation, vehicle access and area lockdowns. CCTV cameras enable operatives to identify and validate incoming vehicles. Intercom and cameras with 2-way audio provide effective communication with drivers and enable any instructions to be clearly delivered. Access control is used to unlock doors, gates and barriers. Wherever possible, existing on-site security equipment is used by Remote Guard to make it highly cost-effective and sustainable, although this will depend on the age and sophistication of that equipment. www.stanleysecurity.co.uk/services/monitoring



TBA FIREFLY'S PASSIVE FIRE BARRIERS CPD SEMINAR AVAILABLE ON-LINE



TBA Protective Technologies Ltd, who manufacture the FIREFLY™ range of flexible fire barriers, have issued their latest CPD seminar on Passive Fire Protection (PFP) via their website. The introduction to the new CPD begins with an overview of PFP, citing the importance of sealing around pipework, ducts and other penetrations. The presentation then moves on to legal requirements. Various elements of Part B of the Building Regulations are covered.

There are various slides showing illustrated examples of the types of detailing required, that good design should consider when deciding upon the specification of a fire barrier. The seminar then moves on to the importance of PFP components, and provides examples of real life installations. The presentation is completed by an example of IFC certification and lastly, the summary. Essentially FIREFLY™ has created a straightforward and instructive presentation, ending with a questionnaire to complete in order to receive a 2 Point CPD accreditation. www.tbafirefly.com

STELRAD SUPPORTS WHEELCHAIR RUGBY IN THE NORTH EAST!

Following on from its support and sponsorship of Newcastle Falcons in the Rugby Premiership, leading radiator manufacturer Stelrad – with its head office in Newcastle city centre, has stretched its support for rugby to include wheelchair rugby – donating two new specially adapted wheelchairs to what was called Newcastle Wheelchair Rugby Club, renamed during the lockdown as North East Barbarians Wheelchair Rugby, to more accurately reflect the club which has players and supporters from Morpeth in the north of the area, and as far south as Hartlepool.



Says Stelrad's head of marketing Chris Harvey, "We were delighted to be able to help in a small way by providing these two additional wheelchairs for the club. We have built a reputation over the years for supporting local sport up here in the north east and in South Yorkshire, where our manufacturing unit and national distribution centre are based. We're pleased to be able to help the club in this way." www.stelrad.com

NEW HYDRAULIC DESIGN SOFTWARE FOR HAURATON SURFACE DRAINAGE SYSTEMS

HAURATON's new web-based application 'DesignSoftware' provides construction industry professionals with quick, simple hydraulic analysis, channel sizing, project design and product specification for the company's range of surface drainage systems (for landscape, commercial and civils projects) whilst working on their own desk-top computers, laptops and tablets. Immediate access for registration and use of this new hydraulic design software is achieved through the link: <https://hydraulicdesign.hauraton.com>. User-friendly and free-of-charge, HAURATON 'DesignSoftware' provides engineers with the flexibility to create their own drainage designs and project specifications, with just three clicks to a hydraulic calculation.

HAURATON has used their 'in-house' hydraulic design software to create project designs for over 30 years with total reliability. In addition to this new software application, HAURATON offers a comprehensive design service, which is also free of charge. www.hauraton.co.uk



DOMUS VENTILATION WELCOMES NEW SALES & MARKETING PERSONNEL

Domus Ventilation, part of the Polypipe group, has appointed two new members to the ever growing team: Russell Beardsworth as Specification Sales Manager for the Midlands / North England, and Megan Bennett as Senior Marketing Executive.



Russell brings with him over 12 years' experience in the construction sector, with the last five years being directly in ventilation. His experience as both a Project and Key Account Manager at Xpelair and Vortice, and his work in developing the latter's specification range, made him an

ideal candidate for Domus Ventilation.



A further newcomer to Domus Ventilation is Megan Bennett who has taken on the role of Senior

Marketing Executive. Megan may be new to the ventilation industry, but her marketing skills are tried and tested. Megan has spent the last eleven years in various marketing roles with Invacare, a leading manufacturer specialising in helping people with reduced function, mobility and disability, culminating in the post of EMEA Marketing Communications Specialist. www.domusventilation.co.uk

UNDERSTANDING PERMEABLE PAVING AND SUDS

The trade association Interpave has published a new edition of 'Understanding Permeable Paving and SuDS', an essential introductory guide to all aspects of concrete block permeable paving for sustainable drainage systems (SuDS) – and much more. This comprehensive guide reflects current thinking, based on experience from long-term usage, and explores the latest innovations and potential for wider benefits for the urban environment. Concrete block permeable paving (CBPP) is a uniquely flexible sustainable drainage systems (SuDS) technique.

It provides an inherent drainage system that requires no additional land take for water storage, treatment or conveyance, and offers the same visual richness as conventional block paving. This technology also eliminates pipework, gulleys and manholes, and therefore costs less than conventional drainage and paving. There is a growing choice of concrete products available from Interpave manufacturers, designed specifically for permeable paving. Essentially, they have the same impressive performance as conventional precast concrete paving products, being slip resistant, durable, strong and sustainable. And today there are more shapes, styles, finishes and colours than ever to give real freedom of choice.

Safe Surfaces - The difference with permeable paving is the enlarged joints, filled with a permeable aggregate, and the materials used below the blocks, which are specifically selected to accommodate water. Concrete block permeable paving can be laid level and still avoids puddles without the need for drainage gulleys. It provides a safe, firm surface for everyone – including wheelchair users and people pushing prams – unlike gravel and other loose materials. It is also the preferred option around trees, rather than tree grilles, according to BS8300-1 (2018).

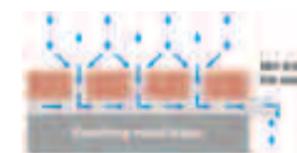
Permeable paving is specifically designed for a dual role, acting as the drainage system as well as supporting people and vehicles. At the same time, many pollutants are substantially removed and treated within the paving layers before the water leaves it. As a result of its unique capabilities, CBPP offers designers the exciting potential of a gradual supply of treated water that can be integrated with landscape design and promotes biodiversity. It also provides clean water at the head of the 'SuDS management train' enabling safe, open SuDS features on the surface, downstream.



Pollution Removal - The importance of this is highlighted in a 2019 report by the Greater London Authority which points out that pollution from vehicles (including electric, incidentally) is being washed off impermeable surfaces into dedicated 'surface water' sewers. Unlike combined sewers, these do not flow to sewage treatment plants and so can directly pollute our watercourses and rivers. Of course, road gulleys and piped drainage do not remove pollution or attenuate water flows. But CBPP offers a real opportunity to address the major problem of vehicle pollution runoff. National and, increasingly, local planning policies encouraging or requiring SuDS continue to appear. For example, the Draft London Plan says that: 'Development proposals for impermeable paving should be refused where appropriate, including on small surfaces such as front gardens and driveways'. This stance is supported by the 2019 National Planning Policy Framework.

Post Pandemic Paving - But the wider benefits of concrete block permeable paving are also discussed in Interpave's latest guide. For example, CBPP offers potential for 'cool pavements' helping to reduce the urban heat island effect, making our cities more comfortable in summer, with evaporation of rainwater from the surface and within the paving. This enhances the already high albedo – or heat reflectance – available with concrete block or flag paving generally. Of course, concrete block permeable paving provides attractive hard-landscaped spaces with safe, level, puddle-free, shared surfaces for all. But one particular innovation covered in the latest edition of the guide is set to play a major role in the post-pandemic public realm. Retrofitting concrete block permeable paving as an overlay to existing streets offers a low-intervention technique to transform the public realm in response to the raft of recent active travel and open space initiatives.

Innovative Retrofit - An award-winning, exemplary landscape and SuDS scheme – Bridget Joyce Square in White City, London – demonstrates the multifunctional benefits of retrofitting permeable paving in place of sealed surfaces, not only on adopted streets (as here) but also drives, parking and other external areas. Its design, by Robert Bray Associates, introduces the innovative concept of CBPP as a thin overlay for existing streets, removing rainwater straight from the surface without gulleys and providing attenuation and treatment before discharging to adjacent, well-planted basins. Water is attenuated and treated within the CBPP and is released horizontally via stainless-steel letterbox slots into planted basins where flow control chambers on the outlets protect the combined sewer. Thus, rainfall remains within the SuDS landscape until storms have passed and the sewer can deal with the – now clean – water. A case study on this project and Edition 6 of Interpave's 'Understanding Permeable Paving and SuDS' can be downloaded from www.paving.org.uk



INVESTING TO MAKE CHRISTMAS 2021 A BIG TOWN CENTRE FOOTFALL-DRIVER

Whilst the impact of the Covid-19 pandemic means that 2020's Christmas shopping trip to our town and city centres will be subdued, next year could be very different as many shoppers seek to make up for losing out on one of their favourite experiences of the year. And it will be a crucial time for high street retailers who have faced a challenging 2020 as a result of social distancing, local lockdowns and the choice made by many shoppers to simply stay away and shop online instead.

Christmas 2021 is, therefore, set to be a big footfall-driver and now is the time for town and city centre managers to plan ahead and optimise their infrastructure so they can make it the best experience ever. The popularity of Christmas attractions is now known to boost the fortunes of many of our towns and cities. Many councils execute long established programmes involving the decoration our town

and city streets, supported by food, drink and retail stalls. All of this needs safe, secure and reliable access to power, water, gas and other services in a way that does not affect the look and feel of our urban spaces for the rest of the year.

This is the reason why the range of retractable, pop up service units, in-ground service units and power bollards from Pop Up Power Supplies® is used extensively by local authorities, city centre managers and shopping centre operators across the UK. These durable, easy to use units are designed to provide power and other services when you need them, but are hidden when you don't, so there is no need to hire temporary generators. www.popuppower.co.uk

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EUROCELL FENESTRATION SOLUTIONS

When it comes to implementing your vision whilst meeting the stringent performance requirements of Building Regulations, Eurocell can help you with your fenestration solutions. Eurocell's expert technical engineers can work with you and your contractors to get the right fit for your project. For example, on a recent project, Eurocell Modus Tilt and Turn windows were modified to provide the rigidity required to meet challenging wind loading and structural issues, whilst still retaining the thermal efficiency required.

Plus with the challenge of tight budgets, Eurocell's value engineered solutions can give you better energy performance, equal aesthetics and a lower cost than other materials, all with recycled content to contribute to your sustainability values.



PVC-U may look like a good choice on paper. But how does it perform against aluminium in-situ? When it comes to aesthetics, it's the best lookalike around as virtually any metallic surface can be replicated. Not just a perfect match for the architect's vision, but also for any aluminium doors and commercial shop fronts on the ground level.

However, and perhaps even more eye-catching, its hidden strength lies in its outstanding versatility when used in a profile such as Modus. With full technical support and expertise from Eurocell the project's window system was modified and strengthened to provide the rigidity required to meet its challenging wind loading and structural issues.

Acoustic rating to the glass was also a major consideration. Modus Tilt and Turn was a flexible enough option to be able to meet the requirement of structural engineers, who factored in the required noise reducing glazing. Contact Eurocell to find out how they can help you by reading the full case study or visit www.eurocell.co.uk

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ARCHITECTURAL BEAUTY COMBINES FORM, FUNCTION AND AESTHETICS

There has always been a relationship between design and the marrying up of form, function and aesthetics. While popularity of materials and styles comes and go over the years, how products look, feel and perform is constant. This interesting interplay is explored in the latest online theme from Trolldtekt A/S, the Danish manufacturer of acoustic panels. Comprising expert articles, white papers and interviews, the 'Architectural Beauty' theme looks at the concept of architectural beauty and the importance of aesthetics in leading certification schemes for sustainable building. It acknowledges that it is not always possible to harmonise the aesthetic with the practical but that there are some ways in which they can be combined to provide value to a building while enhancing its beauty.

Australian artist and designer Jay Dee Dearness sums it up well - "Beauty is the melding of functionality and aesthetics in just the right proportions to achieve the desired result." Acoustic product manufacturers, such as Trolldtekt, embrace this relationship and are at the forefront of practical, aesthetic and high performance products and design. Trolldtekt's wood wool panelling is a perfect canvas allowing architects and designers to realise their most creative schemes, safe in the knowledge that acoustical performance will not be compromised. Since 1903, Copenhagen has presented annual awards for beautiful buildings, landscaping and urban spaces within the city. The Copenhagen Building Award comprises four categories - new buildings, restoration, refurbishment and urban environments.

"We present the awards to honour the architects, engineers and developers behind the projects. Also, we're keen to support projects and urban spaces that are of particular benefit to the city and its citizens", comments Camilla van Deurs, City Architect of the City of Copenhagen and chair of the building award jury. Copenhagen's Grøndalsvængets School (pictured), is one of the winning projects chosen by the Copenhagen Building Awards 2020. The school has undergone thorough renovation and expansion, all designed by JJW Arkitekter. It now has a fully modern learning environment where the original qualities have been preserved – and where the indoor climate is exemplary. Like most schools, it used to be noisy by nature from the exuberance of children.

Now, this stunning example of architectural beauty shows how large bright spaces, natural daylight and interesting design works well with aesthetic high performance products. It also shows how wood wool acoustic panels make such designs possible while dampening ambient and reverberated noise which would otherwise be unbearable for users.

Many buildings have unique challenges relating to acoustic issues but all can benefit from acoustic panelling to help contribute towards improving the interior environment. Specified throughout the UK and Europe, the benefits of 100% Trolldtekt natural wood wool panels include high sound absorption, high durability, natural breathability, low cost life cycle performance and sustainability.

Available in various sizes and in four grades from extreme to coarse, the panels can be left untreated or painted in virtually any RAL colour. Samples, case studies and technical information are easily sourced from www.trolldtekt.co.uk (tel 01978 664255). In addition, information on Trolldtekt's Architectural Beauty theme can be found at <https://www.trolldtekt.com/news/themes/architectural-beauty> or <https://bit.ly/3jvFmV2>





Unique projection system - Unlike ordinary electric fires, the Virtuo 3D flame picture is generated by a unique projection system that replicates the image of a real log fire, from the tall, dancing flames to the glowing LED fire bed and flying embers.

The mirrored Ceraglass interior further enhances the depth of image and there is even the sound of crackling wood. There are three different flame variations, including special light effects that can be updated. In addition, there is a remote control and an exclusive control app for smartphones and tablets with a timer and thermostat.

Sustainable and efficient - Virtuo delivers a cosy 2 KW output or it can be run as a purely decorative fire. There are no ribbons to twist or spindles to squeak and it is energy efficient with low running costs.



Commenting on the Virtuo launch, DRU UK general manager Niall Deiraniya said: 'Virtuo fulfils a real need in the fireplace market. Many householders are moving away from burning fossil fuels towards more sustainable home heating. Virtuo is also suitable for today's well-insulated properties that do not require an appliance with a high output, but still want the luxury of a beautiful flame effect.'

For home builders and self-builders, Virtuo also makes a very attractive option, as it requires no chimneys, flue pipes or complex construction. Simply plug it into the domestic power supply and enjoy the experience of an atmospheric log fire.' Virtuo is available now from specialist fireplace retailers throughout the UK. For further information, visit www.drufire.com

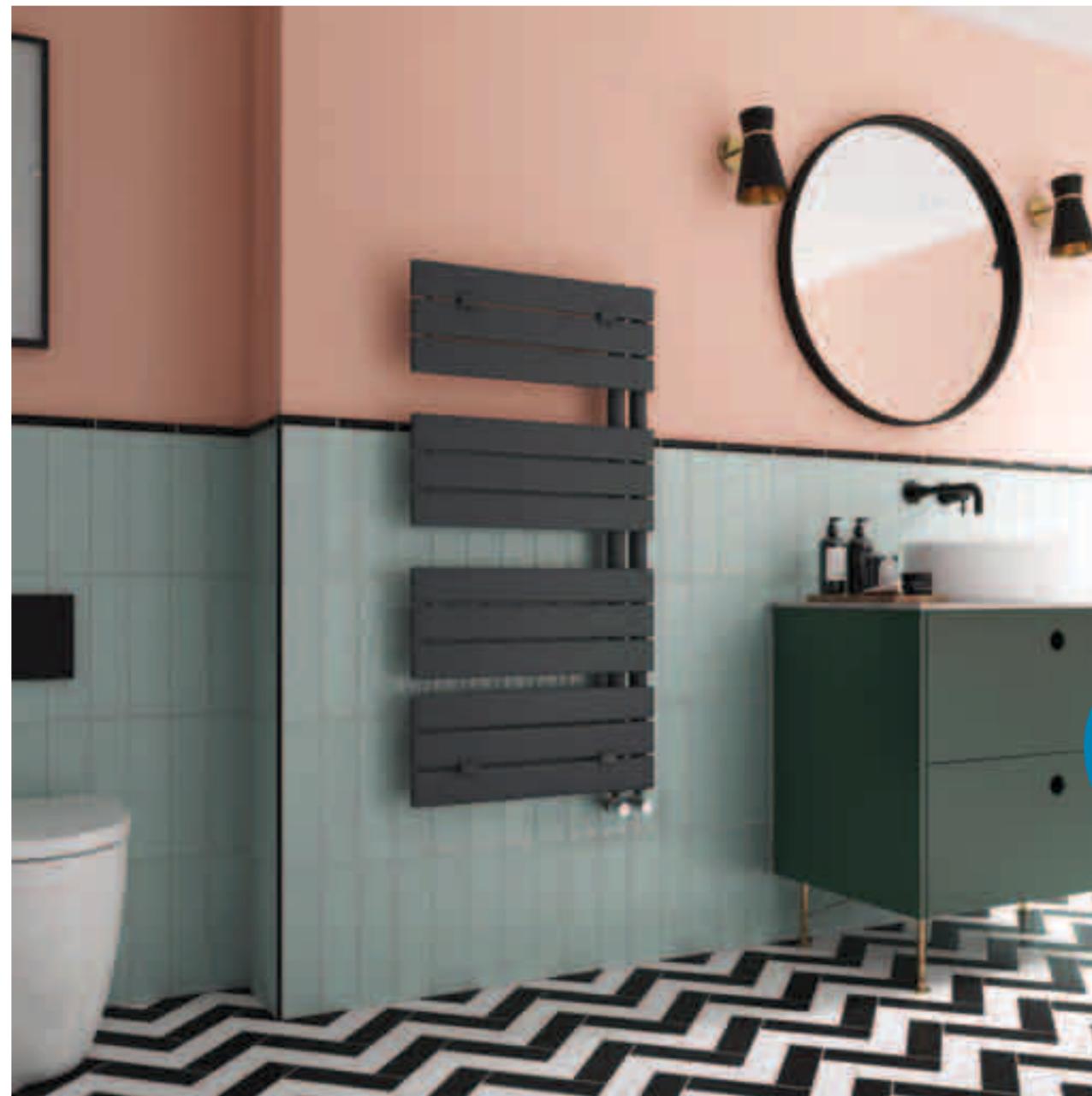
DRU LAUNCHES NEW VIRTUO SERIES OF CONTEMPORARY ELECTRIC FIRES

DRU Fires, based in The Netherlands, is a leading European manufacturer of contemporary fires and stoves in gas and wood. DRU has launched the Virtuo, a revolutionary, realistic electric fire with a unique 3D flame picture and a design and build quality that is the equal of its award-winning gas fires.

The Virtuo series is based on the design of the DRU Maestro range of high-end gas fires. They are glass-fronted with authentic log fire beds, realistic flames and a selection of front-facing, 2-sided and 3-sided models. The fires can be installed into false chimneybreasts or other architectural features around the home to create complete, contemporary fireplaces.

STELRAD LAUNCHES NEW COLLECTION FOR BATHROOMS AND KITCHENS

Leading radiator manufacturer Stelrad Radiators has launched a new radiator collection of existing and new radiators under its 'Boutique' branding, offering a comprehensive, premium range of living space, kitchen and bathroom products. The new collection is accompanied by an impressive new 116-page brochure and its own stylish section of the new web site. This collection offers the marketplace the widest range of styles and by far the largest selection of sizes of specialist decorative and designer bathroom and kitchen radiators on offer from any manufacturer in the UK.



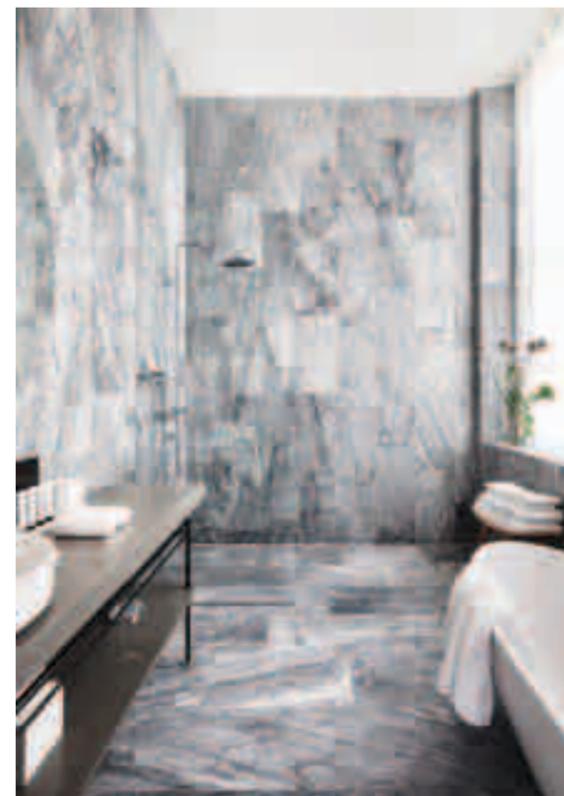
You'll find familiar and welcome products in the new Collection - with names such as Caliente, Concord and Column - but equally you'll find new styles and names such as Como and Lecco - products exclusive to Stelrad, along with Silhouette as well as new additions and designs for established styles like the Concord Side Concept and Concord Side Chrome - and even Concord Chrome Vertical.

The UK's no.1 brand in the radiator market is adding style and appeal to the kitchen and bathroom and adding colours and chrome finishes to add to the sparkle.
www.stelrad.com

UNIDRAIN BRINGS NORDIC MINIMALISM TO 100 BATHROOMS IN THE NOBIS HOTEL COPENHAGEN



For travellers, hotels are a practical necessity combined with professional service; however, the best hotels cover all the practical requirements with efficiency and elegance and add personal touches and definitive style. Nowhere is this more apparent than in a hotel bathroom and the secret to this modern day luxury is in the choice of materials, tailor-made solutions and design ethos. The recently refurbished Nobis Hotel in central Copenhagen is a perfect example with one hundred hotel rooms, all offering enviable and totally luxurious bathrooms.



Scandinavian Elegance - With such a project, attention to detail is imperative. Each of the bathrooms within the hotel has been created with Scandinavian elegance as this chic minimalist design ethic helps to create an environment where there is a space to pamper oneself and relax whilst exuding a sense of wellbeing.

Custom Tile Solutions - One of the main characteristics of each of the 100 bathrooms is a large bathtub surrounded by marble tiles. A large single mirror is positioned above the dark framed washing area and wash basin reflecting light back into the room. The shower cubicle maintains the minimalist feeling, as it is enclosed by a sleek sheet of glass. The water falls from the oversized shower head bouncing on the tiles beneath, before disappearing into the bespoke single drain.

Bathrooms in 80 of the 100 Nobis Hotels feature Unidrain's customised solution linear drains. At the architect's request, Unidrain created and supplied designer drains for the shower cubicles in the entire hotel. The drains for 80 bathrooms were fitted with Unidrain's linear drains each with the customised solution option. Here the classic steel Unidrain grating has been replaced with exactly the same marble as the rest of the bathroom, making the drain almost invisible to the eye.

Bespoke Solutions - At the Nobis Hotel, Unidrain worked in conjunction with their architectural advisor Dennis Bagge, to ensure that the clients every detail was met. For example, twenty of the bathrooms in the hotel are particularly large and needed extra-long drains. This required a single drain to cover an expanse of more than two metres.

Unidrain were able to create bespoke extra-long drains made to the client's specific dimensions. These tailor-made solutions add the finishing touch and help to create the coveted wellness experience wanted in a bathroom today. This room has evolved more than any other in the home, from an outdoor WC, it transferred inside, initially as an enlarged broom cupboard. Now it is no longer a room we have for practical reasons, but a space we want to spend time in to pamper and relax - be it in a home or a hotel. www.unidrain.com

SOUTH WALES CHURCH WARMS TO CIRCOBOARD PERFORMANCE

The congregation of Salem Baptist Church in Barry, in the Vale of Glamorgan, can look forward to physical as well as spiritual comfort during services next winter, thanks to a comprehensive upgrade of the building's heating provision, with a full underfloor heating system from Circoflo having been chosen to deliver efficient background warmth.



The work has been carried out by Cardiff Plumbing & Heating (South Wales). A key early decision was to conceal the substantial slope in the floor, which ran from the main entrance towards the pulpit, by fitting timber floor joists creating a 400 mm deep void which was filled with insulation. The CircoBoard panels were fitted flush on the angle brackets supplied between the joists, although they can also be installed on battens, if preferred, before installation of the final finished floor.

CircoBoard is one of six floor construction options available from CircofloPro. Their unique two, three or four port 'universally versatile' minifolds, which can be installed in a huge variety of ways with the standard fittings supplied, and the 12mm pipe supplied in lengths of 50, 70 or 90 metres for the ultimate in efficiency and convenience while minimising wastage. CircofloPro also provide the wiring centre, mixing units and programmable room thermostats for setting temperatures over a 7-day period. www.circoflopro.co.uk

LG WINS COVETED H&V NEWS AWARD

The results of the annual H&V News Awards were revealed on 25th November at the first ever 'virtual' H&V News Awards ceremony, where many of the HVAC industry elite gathered virtually for an evening of recognition and celebration of the sector's achievements. LG was announced as the winner in the Domestic HVAC Product of the Year – Boilers and heaters category and was praised by the H&V News expert judging panel.

In particular it was praised highly for its unique compressor technology and the effectiveness of the range of products available in its Therma V Air-to-water heat pump range. The announcement was particularly relevant so soon after the Prime Ministers Ten Point Plan for decarbonising the heating sector announcement in the UK during the previous week, in which he stated that the target was for 800,000 heat pumps a year to be installed up and down the UK. The LG Therma V series of heat pumps comprises a full suite of options – monobloc, splits, and high temperature options.

The popular monobloc Therma V air-to-water heat pump operates on the low GWP R32 refrigerant and is available in 5kW to 16kW 1Ø and 12kW to 16kW 3Ø, in a wide operating range of between 10-135Hz and water temperatures up to 65°C without an electric heater. www.lg.com/uk/heating-awhp.



NEW SMALL AND EFFICIENT HUMIDIFIER FROM CONDAIR

Condair is launching the Condair RM, a new low capacity resistive steam humidifier that can provide up to 8kg of steam to a duct. This level of output is ideal for applications like CRAC units in data centres, MRI suites in hospitals and high-end residential humidification. It is also ideal for offering zonal humidity control in branch ducts of buildings, like galleries or multi-occupancy offices, where a specific area of the building requires an independently managed humidity level.

The Condair RM reduces the cost of consumables, when compared to electrode boiler humidifiers, as it incorporates a boiling chamber that can be cleaned to remove lime scale, rather than needing disposable plastic cylinders. It is also, therefore, a more sustainable solution. As the Condair RM has resistive heating elements it can operate on RO water, as well as a regular mains water supply. As RO water is virtually mineral-free, scale build-up is nearly eliminated, further improving the service efficiency of the unit.

As resistive steam humidifiers, such as the Condair RM, use a submerged heating element to create steam, they react faster than an electrode boiler humidifier that relies on the conductivity of the water. This allows resistive steam humidifiers to provide more accurate humidity control, as they respond faster to a control signal. www.condair.co.uk

OMNIE'S MVHR SYSTEMS AT HEART OF SUSTAINABLE COTSWOLD DEVELOPMENT

The timeless appeal of the Cotswolds' honey coloured stone has been redefined by a bespoke development creating two new homes in the beautiful village of Long Compton, where OMNIE has provided building services packages featuring heat recovery ventilation and renewable heating.

Air source heat pumps will supply the domestic hot water and feed warmth to the OMNIE underfloor heating circuits.

The Zehnder ComfoAir Q heat recovery units offer industry leading performance figures yet fit neatly within a utility cupboard, while 90mm ductwork ensures ample air flow drawing warm moist air from the kitchen, utility and bathrooms, enabling them to supply tempered fresh air to the bedrooms and living areas.

Within the past year OMNIE has also revised its range of Smart controls, which include room thermostats and a phone app. Offering occupants whole-house control for optimum energy saving and comfort. www.omnie.co.uk





ALUPROF UPGRADES WINDOW PERFORMANCE

Aluminium has the benefit of being lightweight, strong, resistant to corrosion and easy to form into complex shapes, so perfect for production into windows and doors. Over the decades, as thermal insulation of our building infrastructure has increased through regulation, we have seen resin thermal breaks move to 'roll-in' polyamide strips amongst other developments. Aluprof was the first systems company in the world to incorporate 'aerogel', a material with exceptional thermal insulation, into the polyamide insulated 'MB- 86' aluminium window system, which offers specifiers frame insulation down to a staggering frame value, U_f , of just $0.5 \text{ W/m}^2 \text{ K}$.

A premium product, the 'MB- 86 Aero' has been specified on a wide range of projects, and now Aluprof have used their design expertise to look at a value added proposition on one of their most popular window systems, the 'MB-70'. One of the main driving forces in the fenestration industry today is the ability to reach a net zero carbon target by 2050. In fact in June 2019 the UK became the first major economy in the world to pass a net zero emissions law. The aim is to be carbon neutral in our energy needs in our building stock as well as ensuring that 100% of all building processes will also operate at net zero by 2050. Aluprof continues to stay ahead of the game by offering not only their established range of passive house products, but also through increasing the energy performance of their most popular systems like the 'MB-70' aluminium window and door system.

Utilising the know-how gained in the development and supply of the ground breaking 'MB-86 Aero', the 'MB-79N' utilises the same aluminium profiles as the 'MB-70' with the introduction of newly designed and slightly wider hollow polyamide for vent profiles. These structural, lightweight and thermally efficient profiles separate the inside and outside aluminium profiles creating a competitively priced system. The window system is designed for a broad range of applications including fixed, turn, tilt, and tilt-and-slide windows, exterior doors, both in single and double configuration, and shop window-type solutions with entrance doors. Key to the systems high level performance and value proposition is the use of competitively priced insulation inserts to accompany the polyamide profiles, the 'MB-79N' system is available in three variants:

The 'MB-79N E' the entry level and most economic system. The 'MB-79N ST' with a two-component central gasket for opening vents to provide high thermal efficiency. The 'MB-79N SI' which provides the highest thermal performance with thermal inserts produced using expanded polystyrene (EPS) and the two-component central gasket. The 'MB-79N SI' can activate an impressive thermal frame value, U_f , of just $0.83 \text{ W/m}^2 \text{ K}$, which will offer window system U values down to $0.9 \text{ W/m}^2 \text{ K}$ and doors of $1.3 \text{ W/m}^2 \text{ K}$.

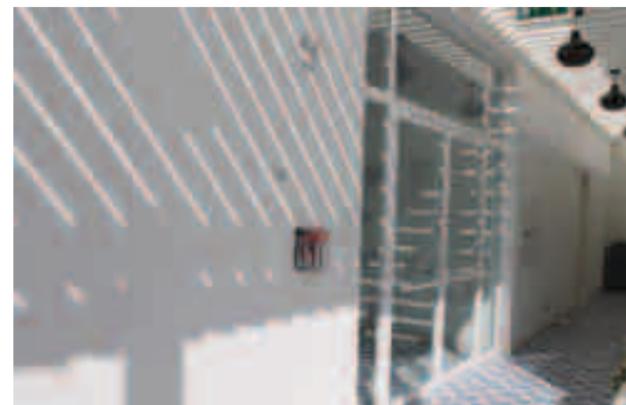
Available in January 2021, the system is available now to be specified on new and refurbishment projects across the UK. www.aluprof.co.uk

CONTEMPORARY ELEGANCE AND CONSISTENCY FOR AWARD-WINNING TRÄGERHAUS

Imaginative architecture that creates era-defining buildings takes into account every aspect of an external envelope's design to ensure consistency of form, quality and optimum aesthetic appeal. The award-winning exclusive new home by HAUS Collective, TrägerHAUS, located to the south west of Glasgow, is a perfect example of this approach.

Named as one of the top 100 houses in Scotland since 2000 by the Royal Incorporation of Architects in Scotland, TrägerHAUS is an extensive private dwelling house that delivers an ambitious contemporary residence extending to approximately 3,750 square feet. It's built on the periphery of the Upper Whitecraigs Conservation Area on a plot that slopes down from a main thoroughfare. Whilst the scale and main volume of TrägerHAUS may not be apparent at street level, this does not detract from the visual appeal of the property as a result of careful consideration of the materials for the home's outward-looking elevation and main entrance.

Key to this was the decision to utilise an elegant side sliding sectional garage door by leading bespoke garage door manufacturer Rundum Meir. The door's manufacture in Siberian Larch ensures consistency with property's other timber cladding elements which perfectly complement the Caithness stone masonry. Fully automated for ease of opening and closing, the garage door operates with the smoothness and reliability that reflects the level of quality which runs through the whole building. www.rundumgaragedoors.co.uk



WRIGHTSTYLE COMPLETES JORDAN PROJECT

Wrightstyle, the advanced glazing system company, has completed a tourism project in the Kingdom of Jordan. The contract was for the supply of WSL 50 series FR doors and partitions, providing 120 minutes of fire protection. Wrightstyle's systems have been installed in a hotel in Ayla Marina Village, close to the Jordanian city of Aqaba, on the country's Red Sea coast.

The Jordan contract is just the latest project in the Middle East that Wrightstyle has been involved with, following other contract completions in the UAE, Saudi Arabia, Egypt and the Lebanon. The Jordanian contact underlines the international nature of the specialist advanced glazing market, with Wrightstyle able to supply for the full range of indoor and external applications, including doors, screens and curtain walling.

The Ayla Marina Village is transforming a small stretch of coastline into a tourist hotspot, with retail outlets, residential apartments, restaurants and bars. It will also have an international golf course, man-made lagoons opening to the Gulf of Aqaba, and the largest marina in Jordan. "Our focus on guaranteed quality, from design through to safe supply, has made us a trusted partner on projects large and small, said Jane Embury, director. "The trust our customers have in our complete and guaranteed systems underlines the specialist nature of the advanced glazing systems market," she said. www.wrightstyle.co.uk



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USING DAYLIGHT TO CREATE A BRIGHTER FUTURE

As winter approaches and the days shorten many people – office workers, students, home owners - look back on the long days of summer with a sense of regret. Daylight flooding into workplaces, schools, and homes has a positive impact on our daily lives, and that is not just a vague feeling, it's a scientifically proven fact and one that architects and designers are keen to exploit.

The 2017 Nobel Prize for Medicine went to three American scientists for their work on understanding circadian rhythms – the 24-hour cycle also known as the internal body clock. Daylight suppresses the hormone that induces sleep and the ultraviolet wavelengths in natural light have a positive effect on the body's immune system. In other words, daylight induces wakefulness, cognitive function,

productivity, general health and healing. No wonder in a recent survey 80 percent of UK office workers said daylight was important to them. This, for a growing number of architects, is a clarion call for natural light to be recognised as a powerful design tool. A report by US practice HMC Architects comments: "As the importance of sustainable design grows, passive strategies like daylighting have become critical in reducing the impact of the built environment."

And they continue: "Today, we have more tools than ever to harness daylight. From innovative reflective materials to advanced computer modelling, architects are using modern technology to light buildings more efficiently. When you embrace these systems, you'll create a brighter future."

The use of such fenestration forms an important part of an architect's passive daylighting strategy and addresses the issue of 'collecting' light into the building. But further options are available from Crittall to assist in the 'distribution' of natural light through the interior of a building. This can be achieved by incorporating Crittall Innervision® glazed interior partitioning screens, a seamless transfer of that increased level of natural daylight throughout the building reaching even the most remote working areas. The performance of glazed interior screens can be further tailored to fine-tune levels of acoustic insulation, light transmission, thermal insulation and natural ventilation control to suit individual clients and applications. As with its exterior windows, Crittall Innervision® screens are similarly manufactured using strong narrow steel frame and glazing bar profiles to offer maximum design flexibility without compromising the design intent.



They have been used in offices to provide acoustically separated working environments, in hotels, restaurants and homes to open-up the appearance of internal space while creating privacy and comfort without shutting out the light of day. Passive daylighting strategies are a significant design tool for making buildings more environmentally sustainable while ensuring their occupants – whether pupil, patient, clerk, guest or resident – benefit from being inside.

So, it's time to do away with daylight robbery! The most obvious component for assisting this design outcome is the window taking account, not just of its scale and positioning, but also its frame and glazing. The UK's Building Regulations Part L1A, address the issue in an oblique manner while considering the balance between the insulation of a building and its energy demands.

The Regs point out that: "Limiting the glazing on a project will increase the building's reliance on artificial lighting, increasing the house's energy demands." But, conversely, "Overglazing might reduce the overall thermal insulation of a building." So there's a delicate balance to be struck. A plentiful supply of natural daylight, not merely into but throughout a building, good insulation but adequate ventilation, and acoustic control all form parts of this elaborate jigsaw. Steel window manufacturer Crittall is in a unique position to offer complete solutions to these cross-cutting issues

so as to provide specifically tailored environmental conditions, whether the end result is a office complex, a university, a hospital or a home. The hallmark of a Crittall window is the slender steel frame that is so much slimmer – and therefore admits so much more light - than the alternative window systems that use PVCu, timber or aluminium.

All these alternatives require significantly larger profiles due to the basic differences in the frame material and their relative strengths. Crittall has a solution to offer whether the particular project demands a high performance, thermally broken steel system or a traditional rolled steel profile, both of which enhance the thermal performance of buildings, assisted by the windows' excellent weathertightness and an extensive choice of glazing to control solar gain as required. www.crittall-windows.co.uk

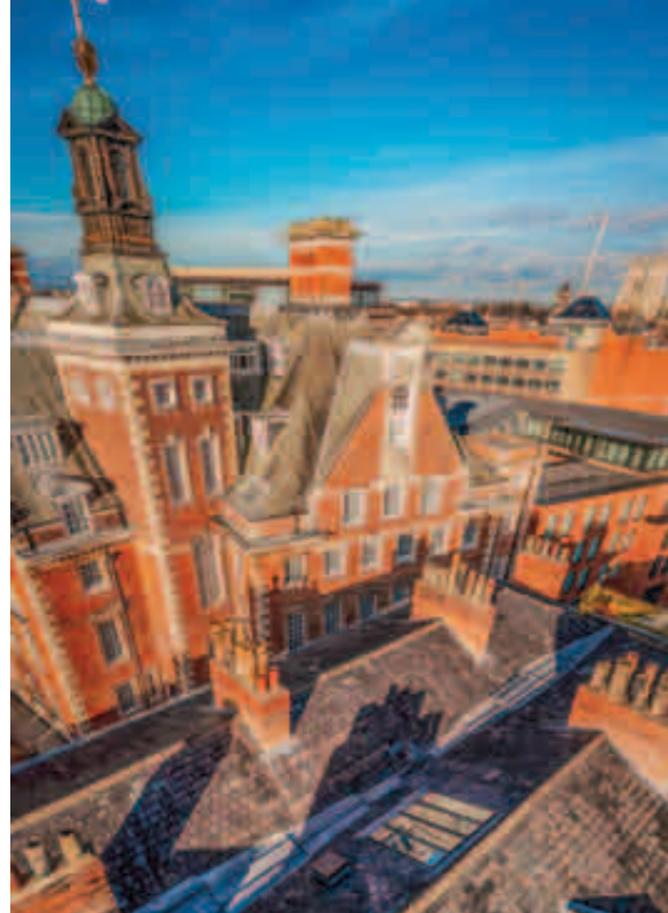
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HISTORIC ENGLAND LEAD BY EXAMPLE AND SPECIFY STELLA ROOFLIGHT AT YORK HEAD OFFICE

Historic England (formerly known as English Heritage) has specified and installed a Stella bespoke conservation rooflight at their York Head Office. As part of a programme of works, which included several fire safety improvements throughout the building, Stella was approached by specialist heritage surveyors, Smith & Garratt to design a bespoke conservation rooflight. The design of which would need to provide suitable ventilation for the building's communal stairwell.

Aside from the design functionality, the rooflight would also need to satisfy strict Conservation requirements, as the building is deemed of significant historic and architectural interest. As all Stella rooflights incorporate slender steel frames, which sit flush within the roofline, they were the ideal choice for maintaining the heritage of the building.

The Stella team worked closely with Smith & Garratt and specialist contractors CG Building & Restoration Ltd on an innovative design that would meet the approval of Historic England and the Planning committee. Stella Rooflight Director, Paul Trace, said: "When Historic England approached us to help obtain planning permission, which had previously been rejected, for the refurbishment works at the head office, we were only too happy to help. We came up with a unique rooflight design with electrically actuated central openings that would provide the solution they were looking for, while at the same time satisfying the planners."



The 2185mm (w) x 2050mm (h) rooflight consisted of four casements, of which, the two centre side hung opening panes are electronically operated by two pairs of high performance chain actuators and designed to open out 90 degrees to provide the required ventilation. The two remaining side panes were of a fixed design and were at the same level as the opening casements; which was an important detail in satisfying the planning requirement.

As with all Stella rooflights the frame was manufactured using marine grade 316 stainless steel, with a C5 coastal powder coating to protect against rust and prolong the lifespan of the rooflight. A bespoke handmade hardwood liner provided a stunning internal finish. A high specification glazing consisted of a BioClean Natura Self-Clean and Solar Control outer pane with a black warm edge spacer (Argon Gas), and a Planitherm One Low E inner pane.

Due to the considerable size and weight of the rooflight, CG Building carefully craned the rooflights into position and fixed them into place, finishing the job using a pre-formed lead flashing kit provided by Stella Rooflight. www.stellarooflight.co.uk

STRUCTURA BRINGS SHAKESPEARE'S FIRST THEATRE BACK TO LIFE

Structura UK, the fabricator and installer of glass curtain walling and specialist refinishing expert, has completed an intriguing project at 'The Box' on New Inn Broadway, London and it's a project full of firsts! The location is the site of 'The Theatre', Shakespeare's first polygonal purpose-built theatre and precursor to The Globe.

It is also the first site where Structura has combined curtain walling with Accoya wood panels. Combining five floors of exhibition space and offices, the whole front façade has been supplied and installed by Structura. An open plan ground floor and basement features an exhibition run in conjunction with the Museum of London, with

artefacts celebrating its place in history as the site of the original Shakespeare theatre. Architects Gallus Studio have also drawn on many Elizabethan references for this project from Juliet balconies to specifying the timber grid framings. In order to test fully the innovative use of timber and glass, Structura had to build a rig for CWCT air, wind and impact tests.

A series of experiments were then conducted using wind generated from an old Spitfire engine and wrecking ball impact. Supplying everything from entrance doors, sliding doors and the entire façade, Structura worked closely throughout with main contractor 8Build. www.structura-uk.com/kalwall



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KAWNEER GLAZING SYSTEMS SHOWCASE LEADING-EDGE AUTOMOTIVE RESEARCH

Kawneer's curtain wall plays a key role at the National Automotive Innovation Centre. Aluminium curtain walling by leading UK manufacturer Kawneer, has helped an award-winning and cutting-edge combination of industry and academia achieve a BREEAM "Excellent" rating. The National Automotive Innovation Centre (NAIC), at the University of Warwick, is one of the largest centres of its kind in Europe, and a partnership between WMG (University of Warwick), Jaguar Land Rover and Tata Motors UK and features Kawneer's AA@110 mullion-drained curtain wall. The curtain wall system

with 65mm sightlines, occasional fritting and in places a translucent inner layer, has been used at triple height on the entrance façade, as ribbon glazing on the ground and third floors, and as roof lights underneath the over-sailing roof. Delivered between January 2015 and August 2018, using BIM by main contractor Balfour Beatty, the project was the first live construction site to trial BIM-based meeting space and such was the success of BIMspace, a next-generation facility camouflaged in a site cabin, it won BIM Initiative of the Year at the Building Awards.

Designed to provide a national focus for expertise in automotive R&D, it accommodates up to 1,000 technologists, academics, designers, students and engineers, with the aim of fostering collaboration to develop and utilise new breakthrough vehicle technology. The L-shaped building is four storeys high and is 33,000m², with a full-height atrium and a glulam and steel composite diaphragm roof.

The Kawneer glazing, which plays a key role in the project by allowing natural light to penetrate the deep-plan building and providing views in as well as out, was divided into several equally key components. At the entrance façade, the quadruple-height Kawneer curtain walling clearly demarcates the public entrance area to the building, allowing for views in and out from the main entrance space/exhibition, while triple-height glazing mirrors the glazed wall to the engineering hall directly inside the building.

Glazing in this area is bolted back to full-height rectangular steel sections and interfaces with revolving doors at ground level. The ground-floor ribbon glazing linking into the entrance facade glazing, wraps around the main public front to the building, providing a fully-glazed facade to the cafe as well as the student projects space. Generally single



storey in height with elements of double storey glazing at key points along its length, some panes of glass are fritted at 60% grey to provide shading, and in more commercially sensitive areas and service areas, an interlayer was added to make the panels translucent. Incorporated into the Kawneer system are a series of glass louvres controlled by an actuator providing smoke ventilation in case of a fire in the exhibition area.

On the majority of the third floor, a ribbon of capped curtain walling provides a visual break between the timber cladding panels and the glulam roof which appears to float over the building, while allowing the third-floor office spaces to take advantage of panoramic views into the surrounding landscape. Here, the Kawneer curtain walling also deals with the deflection of the dramatic glulam roof which can deflect by up to 50mm. The Kawneer capped curtain wall also forms punched windows in the brickwork and timber cladding panels, allowing natural light into, and views out of, offices, key working spaces and stairwells.



Here, the system allows for deflection of the timber cladding panels, with glass louvres incorporated into the Kawneer system in the stairwells to provide smoke ventilation in case of fire. Finally, the Kawneer curtain wall forms roof lights in the design studios, providing north lights in a series of single and double-height design spaces.

Glazing mullions were positioned to reflect the rhythm of the anodised aluminium mesh cladding around the first and second storeys, and the curtain walling was powder coated to match the colour of the structural steel elements of the building. Environmental sustainability influenced the choice of materials and construction methods, including the in-situ concrete frame and glulam roof structure which was renewably sourced with low embodied energy. The roof also houses 1,900m² of photovoltaic panels to reduce the energy load.

Cullinan Studio, who were the architects, said: "We needed to meet green guide ratings for our BREEAM assessment and the Kawneer curtain walling helped us achieve this. "The materials - anodised aluminium, glass, glazed brickwork and engineered timber - are enduring and can be built with a high degree of precision - all project excellence in engineering. "The silicone jointing along the ground-floor glazing and entrance facade helped create the illusion of a seamlessly glazed wall while simultaneously dealing with the movement of the building. In order to achieve the double and quadruple-height areas of glazing, the system was fixed back to steel sections." www.kawneer.co.uk

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LIGHTS, CAMERA, ACTION – ADSA LIVE STREAMS TRAINING FOR QUALITY STANDARDS



What the COVID crisis has taught us, is that we can do things differently. Technology has enabled many of us to work from home, meet with colleagues remotely and deliver services in a way that previously we had not

considered. Throughout these unprecedented times, the automatic door industry has produced innovative adaptations and new solutions for entrance requirements enabling us to adapt to this 'new normal'.

Meanwhile installers and service engineers have found themselves at the cutting edge: assisting the front line by maintaining the effective operation of critical buildings – from hospitals to supermarkets. The Automatic Door Suppliers Association (ADSA)

continued to work during lockdown to provide much-needed support for member organisations and their employees. External stakeholders also contacted the association for advice and assistance during this difficult time.

A fundamental part of ADSA's role is helping set standards and train those working in the industry to deliver quality service, mindful of legal requirements and good practice. Traditionally, ADSA training has taken place in the classroom but the COVID pandemic and the ensuing lockdown meant that this was not achievable, or desirable.

It was considered vital that training delivery be maintained and a solution was found that would emulate the quality of classroom delivery - providing delegates with an in-depth knowledge of all standards to determine the safe operation, design and specification of powered pedestrian doors.



Said ADSA CEO Ken Price: "It was essential that we continued to offer training during lockdown but traditional classroom delivery was out of the question. We quickly needed to develop an online alternative that would offer the same quality and interaction as being there in person."

"I had sat through, and presented, a number of online seminars during lockdown, and I was convinced that digital was the way forward, but I felt that existing platforms were a little one-

continuation of the pandemic. Said Ken: "Our first live streaming event took place mid-June and monthly courses are now scheduled until February 2021. "The response has been extremely positive with members keen to applaud our proactive approach and work with us to make it a success."

The content for the courses was redeveloped from its original 1.5 days duration and adapted for online consumption, introducing breaks to maintain focus and encourage participation. "We also had to identify a way to maintain the security and integrity of our examination process. We were able to achieve this through emailed links to each delegate for an online examination which had to be undertaken within a set period," added Ken. Feedback on the courses has been extremely positive.

There has even been a 100 per cent pass mark – the achievement being taken by Nigel Cove, of dormakaba, who was the first to do this through the live stream training.

In addition to the live sessions, there has been an uptake of 30 per cent in the use of the ADSA Academy which provides more than 100 online courses – the majority free to employees of member organisations. The Academy has been a lifeline for many individuals including those who initially found themselves furloughed during the lockdown period.

With time on their hands, and an opportunity to learn at no additional cost, 8200 training packages have been accessed this year to date. Future live streaming training sessions can be found on the news section of the ADSA website: www.adsa.org.uk/news and via its social media channels.

dimensional. To replicate the quality of our classroom delivery and stimulate engagement, we arrived at the idea of producing a television-style broadcast."

ADSA identified an experienced partner - RED Shell Productions which had significant television production experience. The company used a multi-camera feed, with live mixing and an interactive web platform to help ADSA deliver dynamic content with clear advantages. The digital delivery saves members extra travel and hotel costs and ensures their safety during the





CRITTALL LAUNCH INNOVATIVE THERMALLY BROKEN STEEL WINDOW

Crittall, the originator of the steel window and the sector's leading manufacturer, has launched T60 - a highly innovative thermally broken steel window and door system. T60's slim profiles replicate original Crittall steel windows, combining traditional aesthetics with 21st Century levels of performance. T60 features an advanced high density polyurethane isolator as a thermal barrier.

This, together with housing high performance double or triple glazing up to 38mm wide, ensures the system surpasses the requirements of current regulations while at the same time providing contemporary levels of comfort, particularly in harsher weather conditions where traditional steel windows may not have previously been sufficient. Market-leading weathertightness performance has been tested to European and ASTM Standards.

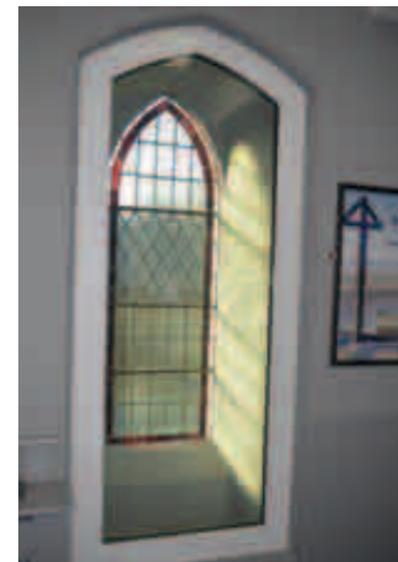
As with all Crittall products, T60 is corrosion protected and finished with Duralife, an architectural grade polyester powder coating. Its slim sightlines maximize the benefit of natural daylight thereby reducing reliance on artificial lighting. Each frame is fully welded enhancing strength and durability. The inherent strength of steel gives peace of mind in respect of robustness and security, boosted by optional multi-locking. A wide range of opening configurations are available. www.crittall-windows.co.uk

SELECTAGLAZE HELP ENSURE THAT HALL'S WELL IN ALNMOOUTH

Hindmarsh Hall, Grade II Listed, was originally one of three granaries at the south-end of the village of Alnmouth, Northumberland. Lying in the realm of one of the top aristocratic landowners; the IVth Duke of Northumberland had the building converted into an Anglican Chapel in 1859. In 1876 the chapel was made redundant, so the building was used and referred to as the 'Town Hall' for the ensuing 60 years.

Giles Arthur Architects were employed to conceptualise the trustee's vision; addressing structural issues, space planning and making the building more energy efficient to reduce on-going running costs. The main objective for the secondary glazing was to provide enhanced thermal insulation whilst still allowing full access to the primary glazing. The original leaded lancet windows on the front of the Hall were included in phase one, with the specification of Selectaglaze 4-12-4mm, low-E, sealed unit secondary glazing. Using laser measuring equipment, 3D information was produced for the manufacturing of the timber grounds and casements.

The tall lancet windows posed a challenge due to their height; 3350mm. Each of these openings were built up with a Series 41 side hung casement set between two Series 40 fixed light units. Hindmarsh Hall is one of the largest, most distinctive and well-used village halls in rural Northumberland. With the refurbishments being made, it will continue to serve the community for years to come. For further information, please contact Selectaglaze on 01272 837271/e mail: enquiries@selectaglaze.co.uk or visit: www.selectaglaze.co.uk

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Why join ADSA?

We can think of 100 reasons.

The ADSA Academy provides access to online learning for members whether you're a sole trader or a corporate.

We offer a range of courses from specialist technician qualifications to role-specific skills and extended development - more than 100 learning opportunities.

Our members have accessed these more than 8,000 times!

#bepartoftheconversation

For more information visit:
www.adsa.org.uk/membership or tel: 01827 216136

ADSA
AUTOMATIC DOOR SUPPLIERS ASSOCIATION

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KALWALL SHEDS LIGHT ON RESEARCH & DEVELOPMENT

A £4m extension to the globally recognised Advanced Forming Research Centre (AFRC) at the University of Strathclyde has used Kalwall® to solve an interesting problem. The Centre houses Europe's largest forge - to be precise an 8.5m high 300-tonne hydraulic press forge - along with the associated isothermal, cooling, furnace and manipulator plant. Kalwall was used on the original structure.

The addition of the new extension has seen a Kalwall clerestory surround added to bathe the interior with diffused daylight. A clever system of removable 6 x 5 metre Kalwall rooflights has been installed allowing for the craning out of the plant machinery to service and maintain when needed. The rooflights not only allow for this vital function but, similar to the clerestory, cast daylight deep into the building below. For projects like this, the use of Kalwall means that natural diffused daylight is transmitted deep into the interior space. This means there is an even balance of light throughout with no hotspots, glare or shadows, therefore removing the need for any blinds or shutters.

Its properties also mean there are less issues around solar gain as the unique composition reduces inward radiation and conduction five times more effectively than glazing. At the same time, Kalwall provides line-of-sight protection and additional thermal insulation, thereby further reducing the reliance on HVAC systems and artificial lighting. www.structura-uk.com/kalwall

THE ELEPHANT IN THE ROOF

Paul Trace from Stella Rooflight discusses the practicalities involved in specifying large rooflights



As a bespoke rooflight manufacturer we often see grand plans with expansive areas of roof glazing, as architects continue to seek innovative ways in which to exploit natural daylight. As much as bespoke rooflights can certainly help bring these designs to life, there are some important factors that need

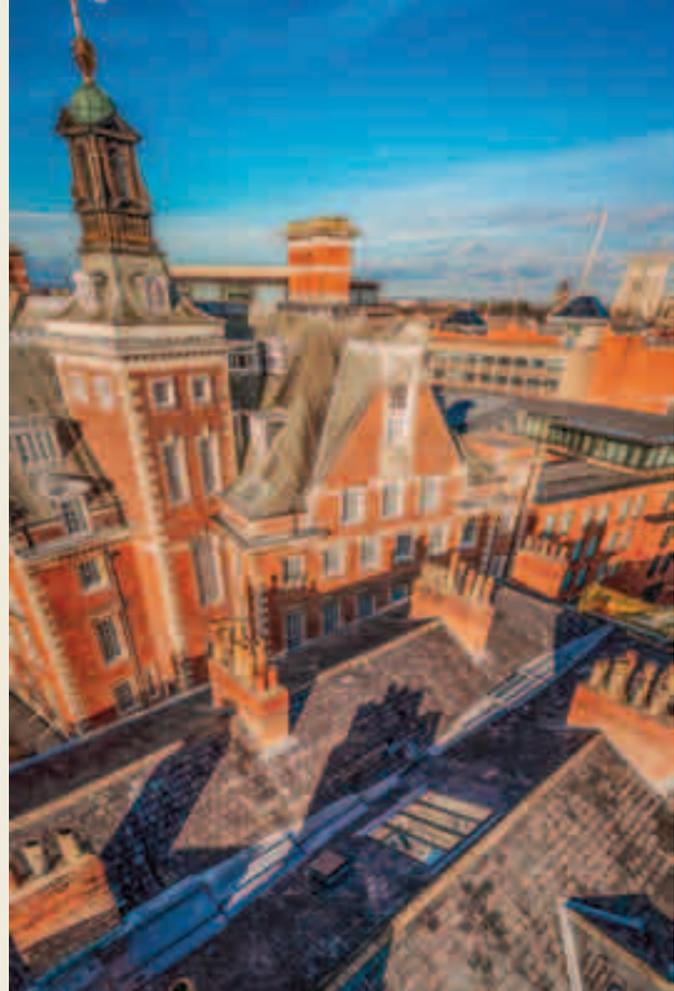
to be considered when the glazing is turned from drawing to reality. In recent years we have noticed a trend towards larger rooflights, with sizes regularly exceeding 2500mm in width, height or both. While Stella can certainly accommodate these, one has to appreciate the practicalities of weight, transportation and cost.

It stands to reason that the larger the rooflight, the thicker the glass will need to be, therefore as rooflight sizes get bigger their weight can increase exponentially. In context, our double glazed units comprising of 4mm thick glass weigh 20kgs per square metre and those using 6mm are 30kgs per square metre. Triple glazed units are 30kgs and 45kgs respectively.

Add the stainless steel frames and hardwood liners into the equation and you can start to see how even a modest sized rooflight can weigh something akin to a small elephant! Indeed it's not uncommon for us to produce rooflights weighing in excess of 200kg. The reality is that when you scale things up even the simplest plans can start to become complex - a truth that should be all too familiar to architects.

But before drawing that large rectangle on a roof plan, it is important to consider how the rooflight is going to be lifted from the ground to roof level and what the weight implications might be for the structure. Stella can weld stainless eyelets to the rooflight frame to aid the lifting process and we would suggest doing this on frames which weigh in excess of 100kg, which is the point where we expect a crane might be required. However, does the site have suitable access for any specialist lifting equipment, and has this additional cost been budgeted for?

The weight of an opening rooflight will also determine whether it is manually operated or requires electric actuation. We would suggest that our largest manually operated rooflight be around



1000mm wide or 1400mm high. Anything over this size will generally require electric actuation to lift the weight and in the case of wider casements, to provide a tight seal. Manual operating casements are less expensive than electric so there is a cost element that also needs to be considered when specifying larger opening rooflights.

There is no maximum size in terms of what is possible to manufacture, although it is worth keeping in mind that a single piece of glass with an area over 5m² becomes significantly more expensive. Fortunately there are alternatives to using large expensive single panes of glazing, such as introducing glazing bars to reduce the unit sizes, linking frames, and having more than one casement. This not only makes the rooflights easier to transport, lift and install, but can also reduce the price.



If a large, single rooflight is the only option for your project then you must also make sure that it is safe to install. While rooflight manufacturers will be able to provide advice on a suitable specification for the job in terms of materials, glazing thickness, functionality and installation, it is ultimately the responsibility of a structural engineer to ensure that the product being specified is fit (and safe) for the building that it is fitted into. To avoid any ambiguity it is fairly essential that the architect, structural engineer and rooflight manufacturer discuss large rooflight installations, likely weights, load bearings, site access, and lifting capacity at an early stage to avoid any problems down the line.



It is not advisable to leave this for the builder to deal with at the last minute. Another area for consideration should be the safety of large areas of glazing situated high up in a roof structure. Again, much like an elephant, there is a lot of grey area here! Regardless of size your rooflight should meet the BS 5516-2: 2004 patent glazing and sloping glazing for buildings standard. This code of practice for sloping glazing defines that inner panes must always be laminated wherever rooflights are more than 5 metres above floor level (increased to 13 metres for panes less than 3 square metres) or are located over water (e.g. swimming pools).

The Standard permits the use of toughened inner panes in other applications (for example where rooflights are less than 5 metres from floor level), but only where a stringent risk assessment for the particular application has been completed and has concluded that the use of toughened glass does not give any additional risk to those below the rooflight. No glass is impervious to breakage so it is important to remember that roof glazing can and often does sit high above common areas in a home or office, so there will always be an element of concern if a unit were to break. (cont...)



(Cont...) Certain industry bodies are calling for all rooflight glazing to include a laminated inner pane to provide greater security in the event that the glass breaks. Much the same as how car windscreens are required by law to be laminated to protect passengers from shattered glass in the event of an accident. There can be no dispute that laminated glass is safer because it forms a net when broken, which remains in one piece, whereas toughened glass breaks into little cubes and will fall down onto whatever is below.

As laminated glass is more expensive, the industry perhaps sees this as a way of combatting the cohort of cheap flat rooflight products that have flooded the market with potentially dangerous products. However, laminating rooflight glass creates its own unique set of problems, as annealed laminate is prone to thermal fracture and heat stress. This risk can be reduced by polishing edges, however the low-e coating is not practical for polished edges as there is a risk of damaging the coating. Swapping the low-e coating for a laminated glass with treated edges is likely to have a negative impact on the thermal performance of the unit.

Using products such as SGG Cool-Lite on the outer pane can help as this has both solar reflective and thermal coatings but these do not have a self-clean coating which is an important consideration for pitched rooflights as they are usually positioned out of reach. Thermal Stress is created when one area of a glass pane gets hotter than an adjacent area. If the stress is too great, then the glass will crack.

The stress level at which the glass will break is governed by several factors. Toughened glass is very resilient and not prone to failing due to thermal stress. Laminated glass and annealed glass behave in a similar way and the thicker the glass the less tolerant it becomes, an important factor for larger rooflights.

The temperature difference for a location can be calculated and the risk of breakage due to thermal reasons reduced. However, to assess the thermal risk you will need to take the following factors into consideration:

- Type of glass being specified for the insulating glass units
- Where the building is located
- Orientation of the rooflight
- Size of any glazing bars (if required)
- Details of any internal shading such as blinds or louvres
- The framing material and powder coat colour
- The window size and if it opens as this will change the angle to the sun
- Whether any radiators are located directly below the rooflight
- Any other details like other buildings or trees casting a shadow onto the glass.

The risk of thermal cracking and heat stress changes throughout the year with the highest risk seasons being spring and autumn due to the low angle of the sun and the lower evening temperatures. Solar control glass either reflects energy or absorbs it to reradiate the heat outwards. By its nature it gets hotter than clear glass and glass that is designed for thermal efficiency alone.

Whilst the majority of installations are within the operating tolerance, in some cases fluctuation in heat can put the stress beyond the limits. Laminated glass is also heavier which needs to be remembered when planning lifting schedules and structural requirements. Another issue experienced with laminated glass is a phenomenon called lensing, where images become distorted. This doesn't necessarily cause such an issue with flat rooflight glazing where the view is a simple sky backdrop, but on pitched rooflights with a view of a landscape, this distortion will be a problem.

In summary, while there is a growing trend for projects to include more and larger rooflights, it is not as straightforward as just adding them to the plans. Clearly there is so much more to specifying large rooflights than meets the eye and while your rooflight manufacturer will be able to provide recommendations, ultimately having a better understanding of what glazing is required and involving a qualified structural engineer in the early phases will resolve any issues you may have further down the line. For further information or to discuss your bespoke rooflight requirement contact the Stella Rooflight team on 01794 745445 or email info@stellarooflight.co.uk





KEY CONSIDERATIONS WHEN SPECIFYING LADDERS

Tony Stevens, Technical Estimator at Bilco UK outlines some key factors to be considered when specifying ladders for accessing a roof area.

Where is the ladder going to be used? If the ladder is required to gain access to the roof and to be mounted externally it will require a safety cage and guard rail to enter the roof safely.

What is the ladder going to be used with? You need to have a clear understanding of the type of access product the ladder is going to be used with. For a small hatch, such as the Bilco E-50TB, which has internal dimensions of 915mm x 915mm, a fixed vertical ladder should be specified.

A retractable ladder would not be recommended for the E-50TB as the ladder angle would hinder access when you get close to the hatch. Where frequent access to the roof area is required for maintenance personnel, tools and equipment a companionway roof hatch, like the CS-50TB which is a larger elongated access hatch, is generally required.

In this instance a companionway ladder or a retractable ladder can be specified (the maximum size for companionway would be 2440mm and 1500mm for retractable). The companionway ladder is a 75 degree angled, rigid ladder providing permanent access to the roof hatch. Retractable ladders are ideal for use in areas where the floor space must be kept clear. They can be mounted above a ceiling and be offered with additional vertical backboards with steps and a handrail.



They can also be supplied with fire rating. Where access is required to the roof area via a smoke ventilator, like the Bilco ESW-50REM, a retractable ladder is not an option. The very nature of the mechanism of a retractable ladder would prevent the flow of

smoke through the vent. It would therefore be counterproductive to use a retractable ladder with a smoke vent, although we have seen this specified on more than one occasion! The only recommended ladder for use with a smoke ventilator is a fixed vertical ladder, due to the small footprint of this type of ladder.

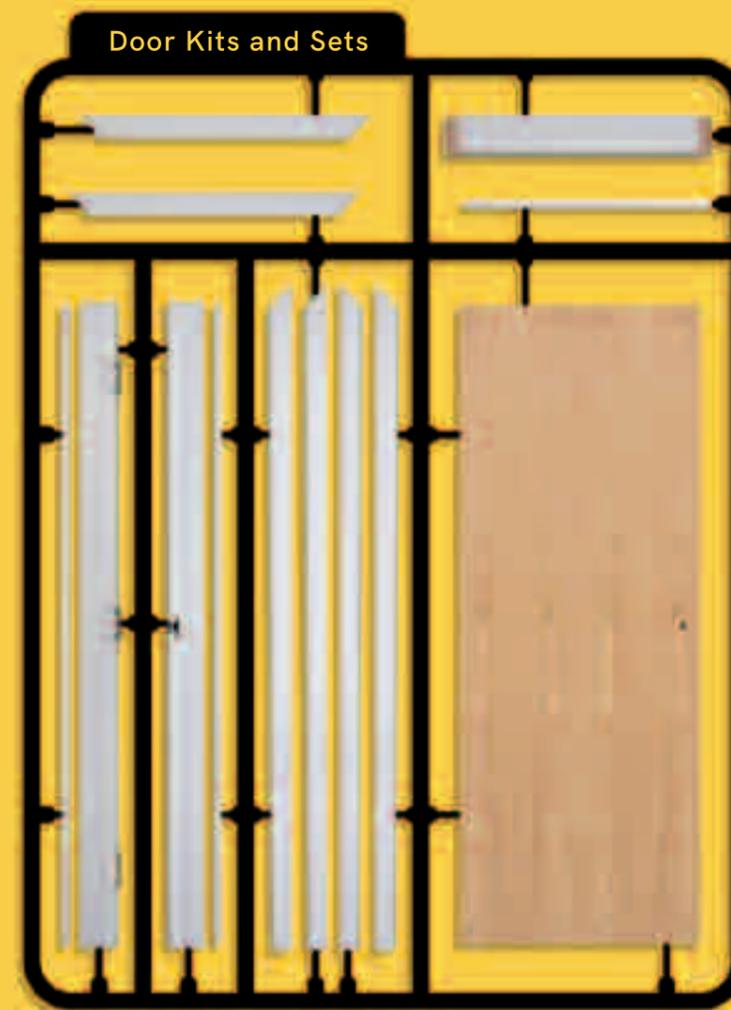
Ladder Height - Knowing the height of the floor to underside of roof access hatch that you wish to access may seem incredibly obvious, but you may be surprised by the number of ladders that are specified either too short or too long for the height required!

Roof Void Height - When specifying a retractable ladder it is essential that you know the height of the roof void - the space between the ceiling and the roof. This is to ensure the ladder box liner will fit inside the space once retracted.

What happens if you get the specification wrong? If you specify a small hatch for use with a companionway ladder or retractable ladder it will be difficult to access. If you specify a large length hatch, it will be difficult to access from a fixed vertical ladder. The worker will have to overstretch to open and close the hatch, putting themselves into an unsafe position.

If you specify a retractable ladder with a smoke ventilator you will compromise the integrity of the smoke ventilator by blocking the flow of smoke. To conclude, specifying ladders might seem like a straightforward aspect of a building project but the health and safety and functionality implications are far reaching.

Always ensure you specify the right type of ladder and hatch that will provide the safest and easiest access to the roof area. If you need help with the specifying the right ladder to use for roof access please contact tony.stevens@access-360.co.uk



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THE TIMELESS ELEGANCE OF WHITE DOORS



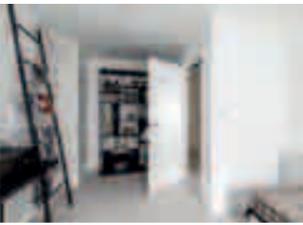
Simplicity in design is often thought to be the secret to creating timeless fashions and one way to achieve that desired blank canvas, is by using flush white doors. This opportunity to rejuvenate and add a fresh clean look to interiors has now been given new impetus and inspiration with the introduction of the White Collection from Vicaima, a selection of quality interior doors for home, hospitality and commercial projects.

Bringing together some truly distinctive finish options in white, the collection demonstrates that this fundamental hue is not actually a single colour, but has in fact a myriad of sheens, surfaces and shades to suit every application. In addition, doors can be customised to allow even greater decorative freedom, with the inclusion of face grooves and inlays, together with many glazed patterns.

The White Collection includes Lacdor in White and Pure White shades, with its ultra- smooth lacquered paint finish; Dekodor SD in White Smooth and Woodgrain finished foils; Dekodor HD White, a continuous pressure laminate for demanding areas and for those who still prefer to paint their own doors, Primed 2

Go, with its revolutionary surface that requires no face sanding or priming and will accept paint straight onto its smooth face to achieve an excellent end result. Where performance criteria is demanded, The White Collection is also available in fire, acoustic and security solutions.

Everything is covered by FSC® certification. Products can be supplied as door only, door and matching frame assemblies or even as corresponding wardrobes. For a copy of the new White Collection brochure or for further inspiration and trend-setting ideas, visit www.vicaima.com



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STUNNING NEW PROJECTS WITH ELEGANT ACOUSTIC DESIGN

Danish manufactured Troldekt panels are commonly specified throughout the UK and Europe to improve the interior acoustic environment. Two recent Danish projects are the transformation of an old building into a car dealer's offices for Karvil Biler, while the other is an extension of Randers Architects' own headquarters into a mix of offices and exclusive residential units.

Both projects use Troldekt ® line with its perfectly symmetrical vertical lines to balance walls and ceilings with great aesthetics, conveying warmth and providing a modern look coupled with high performance sound absorption. For the Architects' washrooms, Troldekt ® line was chosen to add visual vibrancy to the rooms. It also exhibits different appearances depending on the angle from which the wall surfaces are viewed.

The edges have been milled where the panels meet the ceiling, around electrical sockets and switches and also at floor level where bamboo skirting has been integrated. All have been elegantly cut to ensure a neat finish and fine detailing. In the car dealers, Troldekt ® line was selected in order to enhance and benefit the whole indoor climate. "We wanted to create a coherent look. The milled grooves have a visually calming effect and contrast well with the new raw concrete floor," the project manager explained. Troldekt ® line forms nine acoustic solutions that make up the "design solutions" range which combines the best ideals of form and function.

Founded on the Cradle to Cradle design concept, 100% Troldekt's natural wood wool panels are manufactured in a new state-of-the-art production facility. With a variety of different surfaces and colours, they can be supplied in the FSC ® 100% category (FSC ® C115450) contributing to a building's BREEAM, DGNB and LEED rating. In addition to their high sound absorption and tactile surface, the panels offer high durability and low cost life cycle performance, as well as inherent sustainability.

They are also a natural, breathable material which can absorb and release moisture, which is why they have been awarded an Allergy Friendly Product Award by Allergy UK. www.troldekt.co.uk



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SHINING A LIGHT ON THE WORLD'S LARGEST HANGAR

A large new hangar for American Airlines has been completed at Chicago's O'Hare International Airport using Kalwall® translucent cladding to provide natural daylight to form signature 'light bars' at each end. The hangar cost \$251million and was designed by architects Ghafari Associates. At over 185 metres long, 90 metres wide and 36 metres high, it took almost three years to build and is the longest clear-span, dual entry aircraft hangar in the world.

The clever use of Kalwall means that natural diffused daylight is transmitted deep into the interior space. At the same time, it provides security and additional thermal insulation, thereby reducing the reliance on HVAC systems and artificial lighting. In addition, the Kalwall minimises light pollution out of the building and stops the sun reflecting off the surface. These were both important considerations because the building is sited near busy operating runways. These aspects also helped the new hangar win an honourable mention in the 2019 Airports Going Green Awards.



Aesthetically, the Kalwall also works well on this project. The lightweight panels fit seamlessly with the building's primary steel supports, which positively impacted the bottom line since there was no need for a secondary structural system. The 'shoji' pattern of the Kalwall grid also marries up with the exterior cladding and shutter doors giving the whole building a sense of uniformity.

Kalwall, exclusively available in the UK and Ireland from Structura UK, is a popular choice for all types of building around the world. In the UK, it has also been used for several airport projects including Heathrow, Gatwick and Glasgow.

The cladding's inherent strength and heavy duty impact resistance make it ideal for secure locations. U-values as low as 0.28W/m² K, equivalent to a cavity-filled solid wall, can be achieved by including translucent silica aerogel within the panels. Options such as explosion venting and blast resistance can be incorporated as required.
www.structura-uk.com/kalwall



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NORDIC BRASS SPIRALS

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Nordic Brass copper alloy cladding, sunscreens and ceilings help to define a new museum designed by architects BIG (Bjarke Ingels Group) in the Swiss Jura mountain region. The Musée Atelier for Audemars Piguet houses the watchmaker's collection of timepieces. Located in the Vallée de Joux, home to the company since 1875, the new building is linked to the original workshop and slotted discreetly into the hillside landscape with a grass roof.

The plan form is conceived as a pair of parallel spirals, referencing mainsprings – the beating heart of the complicated mechanical watches that the company is famed for. The spirals are formed of structural glazing, highly-insulated from the outside and creating column-free space to allow visitors extensive views of the landscape and interior. The watch reference also extends to the restrained materiality of the building, as many watch parts are made from brass.



Nordic Brass crown - Externally, a band of Nordic Brass cladding crowns the curved glass facades. Then, a transparent brise-soleil screen extends down over the tops of glazing and clerestory windows, protecting them from the sun.

The sunscreen comprises interlaced Nordic Brass ribbons, adding depth and varying transparency from different viewing angles. It was carefully adapted to the changing curvature of the plan, as well as differing height requirements for solar protection around the building. Internally, perforated panels of Nordic Brass clad ceilings track the gently sloping terrazzo flooring with brass joints.

The ceiling also acts as a cooling medium with the Nordic Brass providing efficient thermal conductivity. Copper and its alloys enjoy unique characteristics particularly in terms of safety, sustainability and long-term performance.

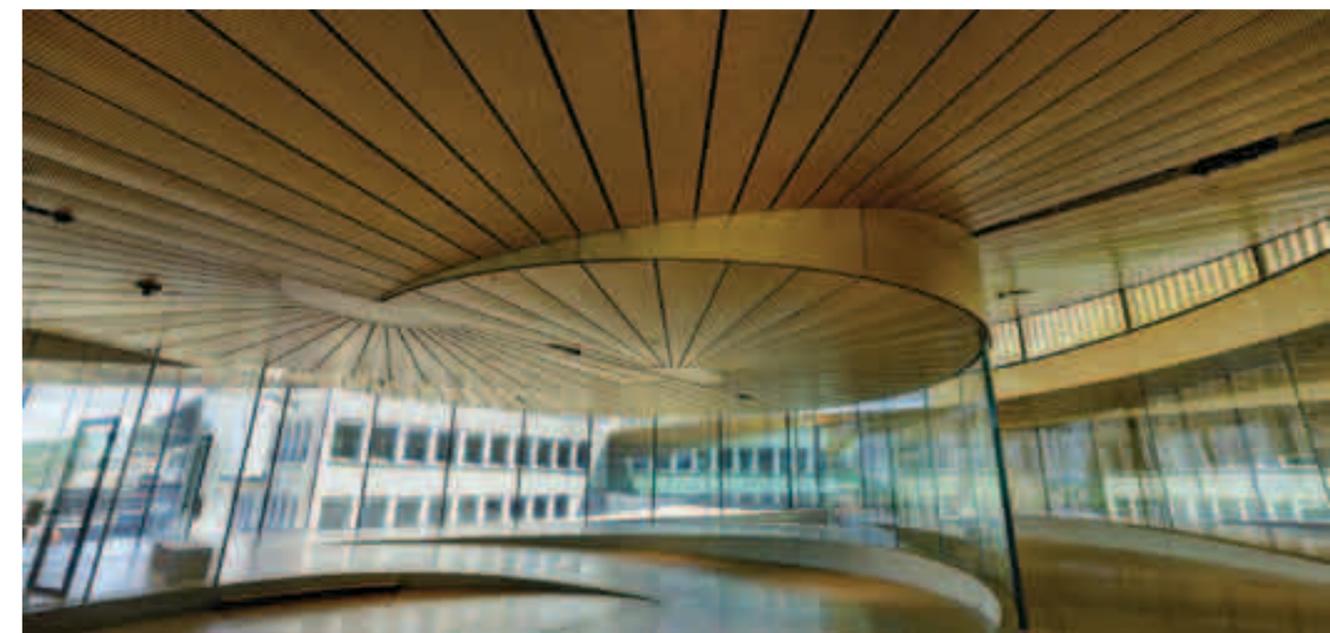
With an 'A1 (non-combustible material)' fire classification to EN 13501-1, copper is inherently fire-safe and suitable for cladding tall buildings, using appropriate constructions. It is also, therefore, rated 'Class 0' surface spread of flame, making it suitable for wall and ceiling surfaces. Particularly important today, copper is non-toxic and its inherent antimicrobial qualities make it ideal for touch surfaces.

Extensive Range - The Nordic Copper range of architectural copper products is available from Aurubis, part of the world's leading integrated copper group and largest copper recycler. It includes Nordic Standard 'mill finish' and Nordic Brown pre-oxidised copper offering lighter (Nordic Brown Light) or darker shades of brown determined by the thickness of the oxide layer.

The extensive Nordic Blue, Nordic Green and Nordic Turquoise ranges have been developed with properties and colours based on the same brochantite mineralogy found in natural patinas all over the world.

As well as the solid patina colours, 'Living' surfaces are available for each with other intensities of patina flecks revealing some of the dark oxidised background material. Copper alloys include Nordic Bronze and Nordic Brass, which can also be supplied pre-weathered.

The innovative Nordic Royal is an alloy of copper with aluminium and zinc, retaining its golden colour. A wide choice of Nordic Decor mechanically applied surface treatments is also available. www.nordiccopper.com

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CUPACLAD IS THE LOGICAL CHOICE FOR STRIKING LEANING HOUSING BLOCK



London-based architect, WHAT_Architecture has specified CUPA PIZARRAS' CUPACLAD 101 Logic as the ideal rainscreen cladding system for a new and unusual housing block in Peckham. Crucial to this decision was the system's ease of installation and its natural aesthetic, which helped the contemporary design to also complement the surrounding and traditional urban landscape.

Located on the corner of Costa Street, the project is part of a wider scheme to regenerate the Peckham area. The unusual housing block has been designed to look as if it is falling. It is constructed with a cross laminated timber interior superstructure, while the form of the upper half of the building is a leaning mansard,

angled towards the adjoining garden at a 72-degree angle – creating a truly striking aesthetic. WHAT_Architecture looked at a variety of materials during the planning process, before selecting natural slate. A completely natural material, slate provided imperfections and rough edges, which suited the desired aesthetic for the housing block. In addition, the slate helped to reflect the character of the surrounding, more traditional buildings.

Antony Hoete, Director of WHAT_Architecture commented: "We have used slate here to do things that brick just could not do. The brick components of the building weigh about 150 kg per square meter, whereas the slate comes in at just under 30 kg per square meter. By using lightweight slate, we have been able to create the leaning effect we desired with an incredibly robust building material. Furthermore, the metal-bracketed CUPACLAD system allowed us to hide the services behind the cladding and also reinforced our idea of connecting the contemporary with the traditional."

CUPA PIZARRAS' CUPACLAD 101 Logic slate rainscreen cladding uses a single aluminium fixing system with self-drilling screws designed to ensure an optimum cladding installation, while remaining invisible to the eye, to avoid impacting the overall design. The 7.65mm slate used is a robust and weatherproof roofing material, which has passed the British Board of Agrément (BBA) certificate for impact testing, ensuring that the slate has long-term durability and will remain watertight.



"CUPACLAD is a modern and easy installation system. We chose the CUPACLAD 101 Logic as its design layout also reflects that of the brick base, without actually using brick," said Diana Kulacka, Project Architect from WHAT_Architecture. Terry Collins, Specification Manager at CUPA PIZARRAS commented: "When approached to help find a solution for Costa Street, we started by undertaking a site visit and survey to ensure we would absolutely understand the architectural vision and how to make it a working reality with slate."

"It's incredibly important to us to have a close and collaborative process, as this helps to ensure the finished project is exactly as desired. Helping us to achieve this is our London showroom, which is a

valuable space where architects can view the materials and talk to our experienced team."

Quarried from CUPA PIZARRAS' own quarry in northern Spain, the slate used on CUPA PIZARRAS' CUPACLAD systems requires no chemicals or heating involved in its extraction making it a sustainable material choice as well which, combined with the modern aluminium cladding system, is capable of redefining the aesthetics of façades. Taylor Maxwell is now the exclusive UK distribution partner for CUPACLAD. When specifying this innovative cladding solution, you will not only have the support of Natural Slate experts but also from a team with over 60 years' experience in supplying external façade solutions to the UK construction industry.

www.cupapizarra.com/uk/rainscreen-cladding/



FIRESHIELD® USED IN UPGRADE OF RESIDENTIAL BUILDING IN LONDON

With today's focus on fire performance of facades across all types of construction, projects to replace and upgrade existing combustible cladding types are increasingly common. At Goldfinch Court, client Hills Partnership working with PCKO Architects undertook this project to replace and upgrade an existing residential facade comprising combustible ACM panels and rigid foam insulation.

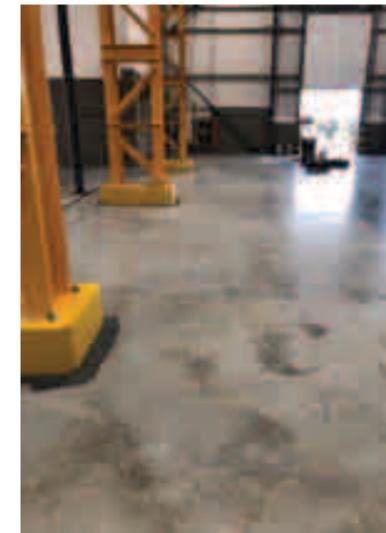
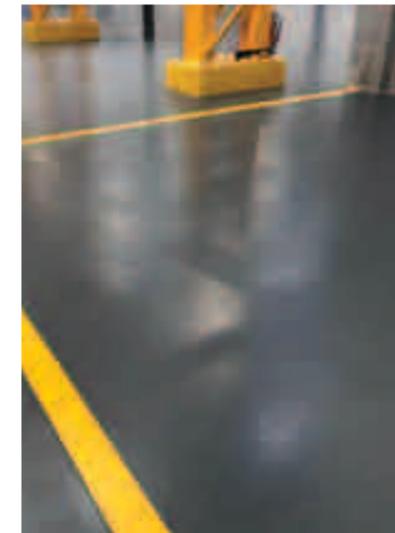
In addition to mineral fibre insulation and non-combustible cladding panels, the architects specified the Fireshield vapour permeable membrane from the A. Proctor Group Ltd. Correctly installed in accordance with the A. Proctor Groups guidance by contractors Facade Cladding Solutions, Fireshield has a unique intumescent composition that actively reacts to prevent fire taking hold.

This unique coating extinguishes fire rather than just resisting it, and significantly reduces the formation of droplets and smoke. Fireshield complies with BS5250, BS4016 and NHBC requirements for vapour permeable walling underlays. It is installed and fixed to the substrate in the same manner as standard breather membranes using mechanical fixings. www.proctorgroup.com

BRADITE FLOORS THE COMPETITION

A warehouse floor in Barnsley was transformed using Bradite's new single pack water-based floor paint, DP9 Floor-It. The 1200 sq metre power floated, porous concrete floor had been penetrated with oil so required preparation for painting with Bradite's TD39 Industrial Degreaser. Diluted with warm water, the solution was used to scrub the floor. Once dry, the floor was lightly abraded to provide a key for the Bradite DP9 Floor-It coating.

"I have used TD39 previously and I trust it to do the job," says Jay Summers, Managing Director of Bedford-based Mayfair Decorating Contractors who completed the renovation. "It was the first time for me with DP9, but I found it very user-friendly", he adds. Four coats of the high-performance, water-based acrylic floor paint were applied by roller by a team of two. Completing the task in two phases meant the building could remain in use. Once the surface was fully cured, it was again able to withstand fork-lift traffic. www.bradite.com



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MARMOX THERMOBLOCK UNDERPINS BROMLEY SCHOOL REDEVELOPMENT

Both phases to the refurbishment and extension of the teaching and other facilities at a South London school are making full use of the insulating and loadbearing capabilities of Marmox Thermoblocks. Work on the Bromley High Junior School is due to complete in November, with operations having continued throughout the period of the lockdown.

In total the rebuilding of the Bromley High Junior School has consumed 180 of the 140 x 600 x 65mm Thermoblocks. Marmox

Thermoblocks are available in widths of 100, 140 or 215mm and are formed from sections of XPS (extruded polystyrene) encapsulating two rows of high strength, epoxy concrete mini-columns. These are attached at either end to the top and bottom layers of glass-fibre reinforced polymer concrete, to ensure a good bond with the rest of the structure. As well as combatting cold-bridging at the base of blockwork walls, Thermoblocks are also often utilised to support timber frame construction, or at vulnerable upper floor junctions. www.marmox.co.uk



MAGPLY BOARDS INTEGRAL TO PERFORMANCE OF IRISH SPECIALIST'S LGS SYSTEM

MgO board manufacturer, Magply, is continuing to build its relationship with Irish offsite specialist Framespace, leading to their latest collaboration helping create an ultra-low energy residential property in County Clare. The 9mm version of the versatile magnesium oxide panels has been used on both faces to Framespace's light gauge steel (LGS) wall sections, contributing to the rigidity of the structure as well as its airtightness and fire resistance.

All the 1200 x 2400mm Magply boards having been installed during the manufacturing process at Framespace's plant in County Roscommon. Importantly, because the top-hat sections are fixed horizontally across the walls they provide extra rigidity to the Magply's racking strength forming an extremely fire safe structure which achieved two- hour fire rating during independent testing to EN 1365 series standards. Overall the use of this all-dry system solution not only guaranteed the quality, speed and low cost of the build, but also ensured there was almost no waste on site, an important sustainability consideration of the project.

Magply offers a fire-safe and environmentally friendly alternative to conventional plywood or OSB products. Additionally, the unique production process keeps the chloride content to just 0.01 %, enhancing both stability and long-term durability avoiding the deleterious difficulties encountered by other MgO boards. www.magply.co.uk

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STO HELPS CREATE STRIKING APPEARANCE FOR NEW UNIVERSITY BUILDING

The centre-piece of a £90m redevelopment scheme on Merseyside has been given a striking appearance thanks to a comprehensive façade solution supplied by Sto. The Roscoe building in the Greenbank Student Village at the University of Liverpool was completed with the installation of 5,500m² of StoVentec R ventilated rainscreen cladding, and finished with the unique Sto Lotusan external render.

The site contains a rich mix of significant and interesting buildings, such as Derby Old Court which opened as the first hall of residence on the site in 1939. The Sto materials chosen for this project had to perform reliably and effectively,

but also be sympathetic to these surroundings, and to the fact that the site sits in a conservation area.

The StoVentec system has a fire classification of A2-s1, do and was able to meet all the required performance standards, while also permitting the creation of the visually striking, smooth exterior surfaces which harmonize with the surroundings and give the building its distinctive new appearance. The StoVentec R ventilated rainscreen cladding system allowed the creation of these façades thanks to its easily-adjustable stainless steel and aluminium sub-construction, to which StoVentec carrier boards are fixed.



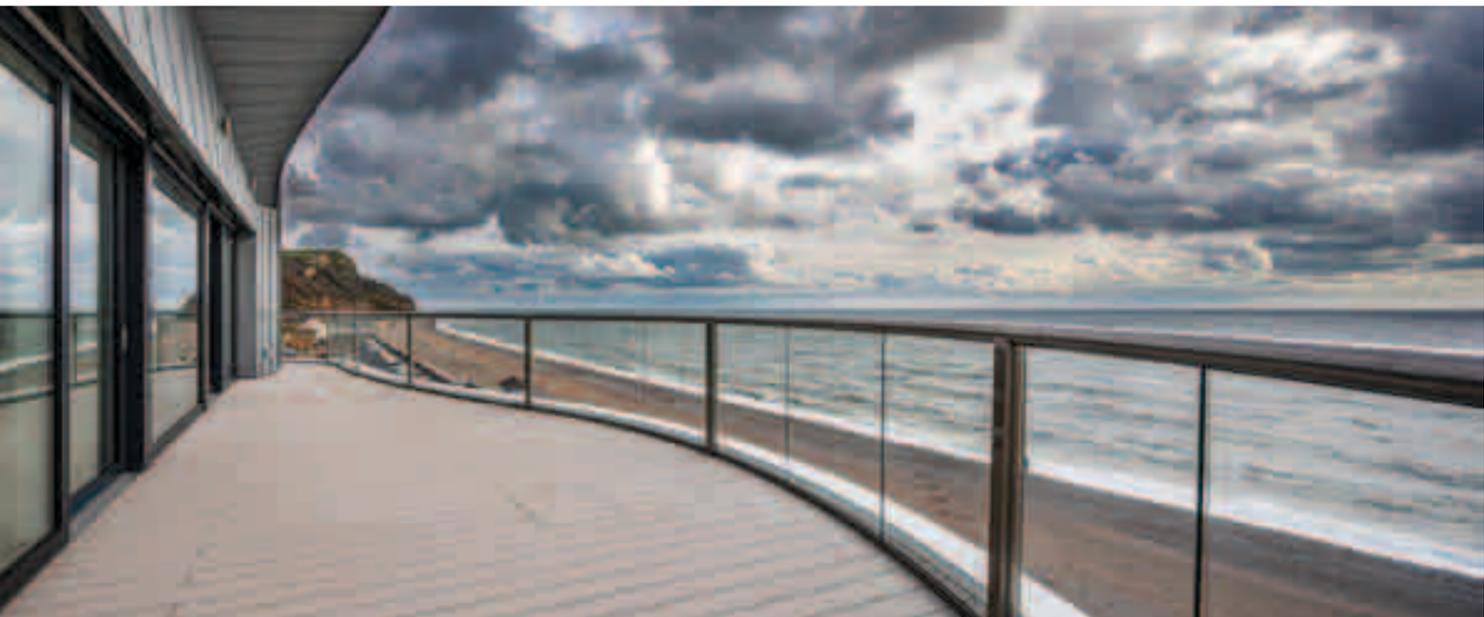
This is partially filled with mineral fibre insulation to provide highly effective thermal insulation and excellent fire protection, while still protecting the wall by keeping it dry and allowing it to breathe. The StoVentec boards are made of 96% recycled expanded glass granulate, and reinforced on both sides with glass fibre mesh for superior impact resistance.

free base coat was applied to the exterior surface of the StoVentec boards, providing the final surface with outstanding crack-resistance characteristics.

The installation was completed with StoLotusan, Stolit and StoSilco external renders in different colours, to provide outstanding protection and enhance the design of the façades. StoLotusan is a superhydrophobic render finish with a patented Lotus-Effect® microstructure surface, similar to that found on the lotus leaf. This render offers unbeatable water and dirt repellence by causing rainwater simply to roll off the façade, taking dirt particles and grit with it as it goes. www.sto.co.uk

These boards do not expand or contract with temperature change and induce far less stress in the screws, enabling the boards to be butt jointed with no risk of cracking – crucial for producing large-area façades. For this project, special profiles and jointing pieces were used to overcome large joints due to the construction method, and a layer of StoArmat Classic cement-





SCHÖCK ISOKORB FOR SEAFRONT PASSIVE HOUSE AWARD WINNER

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Seaton Beach Apartments in Devon is the first UK multi-residential development to be certified as passive house plus. Some claim that passive house standard is easier to achieve with simpler, box-like forms, resulting in finished buildings being aesthetically limited – but this is certainly not the case here.

A little design ingenuity and the use of Schöck Isokorb thermal breaks, has enabled generous sea-facing balconies with sweeping curves to create a striking finish. Seaton may be a traditional Devon seaside resort town, but there is nothing traditional about the eye-catching new passive house development right on the seafront. Seaton Beach Apartments is an innovative, award-winning, new development of seven luxury two-bedroom beachfront apartments, complete with a three bedroom penthouse – and is the first multi-residential development in the UK to be certified as passive house plus.

Which means it is not only able to meet the ultra-low energy fabric requirement, but also generates renewable energy. The project can also boast 'best sustainable residential development in the UK' from the International Property Awards. Initially though, the original architectural design was not to passive house standard. However, the developer recognised that the south-facing orientation and form factor would make it possible to reach the necessary standard.



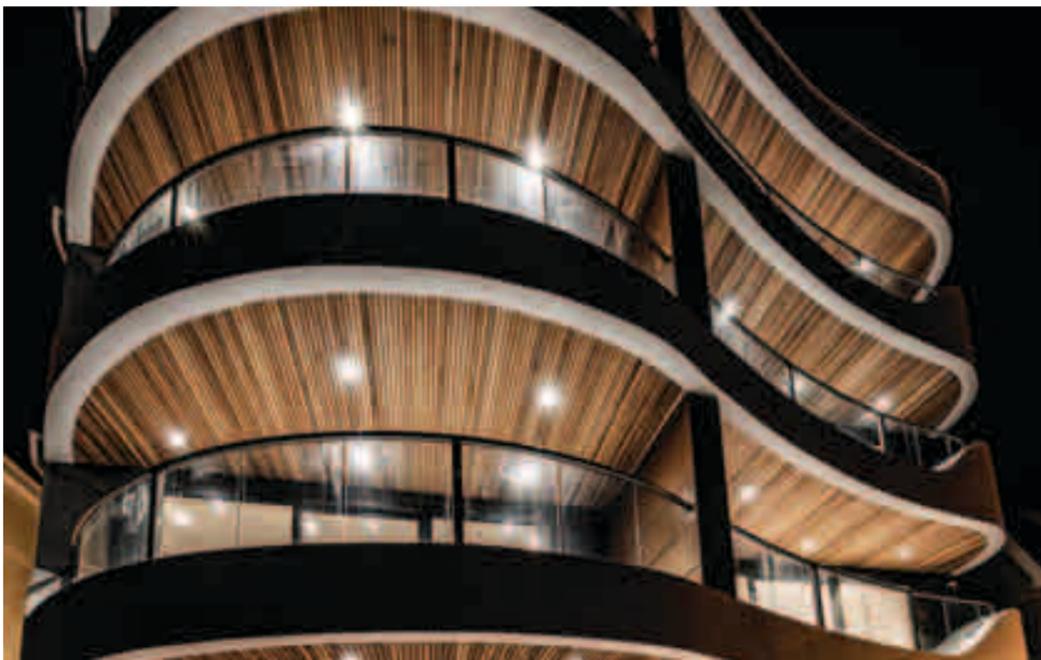
Uses 90% less energy than a typical new build - Other features of the construction include low electromagnetic field wiring arrangements and a highly efficient mechanical ventilation system with heat recovery. Complete with an exhaust air heat pump for hot water supply. An array of PV panels on the roof yield an annual 14,234 kWh, resulting in the building generating more energy than it uses.

There is a constant supply of silently circulated filtered fresh air within the triple glazed, airtight construction. And 90 per cent less energy used than in a typical new build. All factors which have contributed to the building achieving the stringent passive house plus target. Passive house standard is easier to achieve with simpler, box-like forms and finished buildings are often considered aesthetically limited and rather prosaic.

However, with Seaton Beach Apartments, a little design ingenuity and the use of Schöck Isokorb thermally broken balcony connectors defies this notion. The potentially unexciting building now features large sea-facing balconies with generous curves. The detailing of these balconies is critical though, if thermal bridging is to be minimised and the building's energy performance not compromised.

The Isokorb is a technically advanced solution - Schöck Isokorb thermal breaks are installed where the balconies meet the clay block structure, as ineffectual insulation at these cantilever connectivity points will result in local heat loss.

Architects Gale and Snowden, who have helped stimulate the trend for larger scale passive house projects in the region, were brought in at this point to develop the initial detailed designs and oversee the construction. The ground floor is concrete, with a monolithic clay block construction used from the first to third floors and timber frame for the penthouse. Combined with high-performance external render and internal plaster, the result is an entirely mineral hygroscopic wall build-up, which helps to regulate humidity and provide a healthy and comfortable internal environment.



This means more energy is required to maintain the building's internal temperature. Low internal surface temperatures around the thermal bridge can also cause condensation, leading to structural integrity problems with absorbent insulation products and the potentially serious occurrence of mould growth. The Schöck Isokorb is one of the most technically advanced countermeasures against thermal bridging.

It not only thermally separates components from one another, but acts in a structural design capacity as well. The product type used here has an innovative HTE Compact compression module made of high-density micro-fibre reinforced concrete and transfers both negative moments and positive shear forces with cantilever balconies, or positive field moments combined with shear forces.

Enormous freedom of design - As the leading international supplier of structural thermal breaks, Schöck is able to offer planners complete construction dependability and almost limitless freedom of design with the options available in its Isokorb product range.

There are solutions for concrete-to-concrete, concrete-to-steel, steel-to-steel, a thermally insulating connection for reinforced concrete walls – and even a maintenance free alternative to wrapped parapets. The temperature factor used to indicate condensation risk (FRS) which must be greater than, or equal to, 0.75 for residential buildings, is easily met by incorporating the Isokorb. All products meet full compliance with the relevant UK building regulations and the NHBC.

They also offer LABC Registration and have independent BBA Certification. For a free copy of the Schöck Thermal Bridging Guide; the Schöck Specifiers Guide or to view the range of downloadable software, contact Schöck on 01865 290 890 or visit www.schoeck.co.uk

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MARMOX MULTIBOARDS CARRY MARBLE-MOSAICS ACROSS CINQUE PORT SELF-BUILD

A strikingly modern residential property in one of Kent's most famous coastal towns is making articulate use of Marmox Multiboards as part of its cladding solution, around both the inside of an elevated balcony terrace, as well as across the main entrance elevation.

The 3600 sq. ft. four-bedroom self-build on Cliff Road in Hythe – one of the country's historic Cinque Ports – has been constructed for Gerald Glover using a high performance SIP system to create a series of rectangular elements, stepping down the steeply sloping site; with natural, Multicolour Slate Split Face slips, other cladding materials surrounding the runs of triple glazing.

Externally the Multiboards are being fixed over a breathable membrane and timber battens at 300 mm centres with the use of the special Marmox sealant, jointing tape and washers ensuring the creation of a watertight surface. Marmox Multiboards are manufactured from extruded polystyrene or XPS encapsulated in reinforced polymer concrete, in a range of thicknesses up to 60mm and offer a variety of positive physical characteristics in addition to being fully waterproof. They are both light to handle and easy to cut, while still being able to sustain substantial loadings if required. www.marmox.co.uk

TITAN LITE PROTECTING MOVEMENT JOINTS WITHIN NEW MIDLAND METROPOLITAN UNIVERSITY HOSPITAL

The fire protection of critical movement joints within the main floor slabs of the new Midland Metropolitan University Hospital in Birmingham has consumed some 1,000 linear metres of Titan Lite 120/60, as a well proven and widely specified passive fire protection product. In this instance, the specification of the adaptable high performance TBA Firefly system for passive fire protection has come about as the result of consultation between the main contractor, Balfour Beatty and IFC (International Fire Consultants), in conjunction with the NHS Trust's senior Fire Officer.

Flynn Interiors' operatives have attached three layers of the fire resistant fabric to sub-frames made up of 25 x 25mm steel angle, bolted to the concrete soffit. The Titan Lite is secured in place with staggered overlapping joints to resist the passage of flame and hot gases. Both TBA's technical department and IFC were involved with the inspection and sign off of the work. As a non-rigid woven material Titan Lite is easy to cut and fix and is created to improve its cooling properties and therefore prevent temperatures rising in adjoining areas. The system has been fully tested to BS 476 Parts 6.7, 20 & 22 and is third party certified by IFCC. www.tbafirefly.com

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MAGPLY DOUBLES UP ON SHORELINE PROPERTY TO WITHSTAND THE 'SANDS OF TIME'

A striking new three bedroom beachfront home on the East Sussex coast has been designed to not only respect its location within an area of Special Scientific Interest, but also withstand the challenging weather conditions as well as shifting sands, with Magply boards specified as part of both the roof and wall construction.

Sea Breeze at Camber Sands is being built by Coast View Property Ltd. The building is making use of non-

traditional construction methods, which features twin 12mm layers of the rugged and versatile Magply boards as a carrier for a render like finish across the entire envelope. In the case of the habitable roof-space, the contractors are applying a single ply Renolit rubber membrane over a sarking board and then bonding aluminium rails along the line of the rafters, to which the two overlapping layers of Magply are fixed with stainless steel screws. The pink coloured finish is then applied as a primer, base and pigmented topcoat. www.magply.co.uk



TESCO GOES WITH THE FLOW

Following successful trials, Record's traffic light FlowControl system is now being rolled out across 1,100 Tesco stores across the country. Fully automated and with highly accurate counting, the FlowControl is being supplied and installed on customer entrance and exit doors at all store formats of Tesco stores including Express, Metro, Extra and Superstores.

This will help Tesco comply with Covid-19 social distancing guidelines and ensure customers and staff feel safe during the pandemic. The highly adaptable and configurable system enables Tesco to safely redeploy staff currently manning entrance doors and give managers the flexibility to control customer numbers in-store. The FlowControl Traffic lights inform customers when it is safe to enter or when they need to wait because the store has reached its pre-set maximum safe capacity.

When the store has reached capacity, the doors automatically deactivate and only re-open once someone leaves the store. Staff will also be able to monitor the actual number of people in the store at any time on the FlowControl display. This display also allows Staff to make adjustments and changes to settings and counts, for example to adjust for staff that have entered or left the building. www.record.co.uk

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Virtuo 80/3, 3-sided model

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