




building construction design

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December/January 2019

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Cover image: MEDITE SMARTPLY
See page 07 for details



“My supplier said the smoke vents are compliant” ...but can they issue the proof?

**Don't take risks.
Take responsibility.**

SE Controls actuators are tested to the EN12101-2 smoke ventilation standard, in combination with leading façade systems, to ensure correct functionality in an emergency.

The proof of compliance is the issuing of the Declaration of Performance (DoP), which will be required by the contract team, client and authority signing off the building.

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healthier
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environment



New weatherproof waterbar addresses key challenge for ICF installers

Triton has introduced Cemflex VB Steel Waterbar, a fully weatherproof BBA certified waterbar that doesn't need to be protected from rain prior to the concrete pour. It addresses a key challenge in below ground basement construction for installers of quality ICF systems and pre-cast concrete twin wall systems, who need to form a good watertight seal between the ICF blocks or the twin wall panels and the basement slab.

Traditional hydrophilic waterstops have been around for many years and can be used successfully in most applications. However when the blocks forming the structure are not in-filled with concrete for some time, and the waterstop is exposed to rain within the open blocks, this will cause it to start swelling prematurely and result in subsequent underperformance in a very critical location. Attempting to remedy this by the removal of the waterstop is usually impossible due to its location inside the ICF blocks or twin

wall panels.

BBA certified Cemflex VB Steel Waterbar is a galvanised steel plate encapsulated in a special patented coating that reacts only with the water within the concrete to provide a watertight joint. It's designed for use in all non-movement construction joints in reinforced concrete – and is especially suited to ICF or twin wall installations.

Quick and easy to install with no sticky tape to remove prior to use, it can be installed before the concrete is poured by positioning to steelwork, or directly into the fresh concrete after pouring. Cemflex VB Steel Waterbar is 1.25mm thick and supplied in two metre lengths in a choice of 100mm or 150mm widths. Find out more by visiting Triton's website or speak to your local Triton technical manager.

01322 318830
www.tritonsystems.co.uk



Minimise the impact of Brexit



Offsite Solutions, a leading UK bathroom pod manufacturer, has announced how it can help construction clients and contractors mitigate some of the economic uncertainty around Brexit. Many main contractors and developers are concerned about potential

cost inflation and project overruns as a result of Brexit, particularly on projects spanning the end of the first quarter of 2019. By placing an order for bathroom pods with Offsite Solutions before 31st March 2019, the price agreed will be fixed for the duration of the project, regardless of the effects of the UK leaving the EU.

www.offsitesolutions.com



Deceuninck's new appointed UK directors

Deceuninck UK has announced the appointment of two new directors, Chris Jones (pictured left) and Darren Woodcock (pictured right), following several years of outstanding performance. Previously Head of Sales, Chris Jones has been promoted to Sales Director and Darren Woodcock promoted to Operations Director. Managing Director Rob McGlenon said: "I'm delighted to confirm Chris and Darren's promotion to Sales Director and Operations Director respectively. They have helped us grow fast and built our reputation for helping fabricators grow." He continues: "It's an exciting time for Deceuninck. Sales are 17 per cent up year to date on 2017, and the last three months have been over 40 per cent ahead of last year as we gain momentum. We are investing in additional machinery and warehousing to keep up with the demand. We're No. one for colour, and early next year, to stay ahead of the competition, we are stepping up from 26 to 30 colourways always in stock. We're also launching an exciting new Heritage product in the new year."

01249 816 969 www.deceuninck.com

Airborne Hazard Defence with Full Face Mask



The NEW Force™10 Typhoon™ is an extremely lightweight, easy to maintain full face mask at only 365g with a completely clear panoramic visor to maximise light levels within the mask giving optimum visibility. The unique Typhoon™ exhalation valve has been designed to reduce breathing resistance, heat and moisture build-up. The valve is unaffected by any moisture, and therefore can be used with the same performance under very low temperatures (-40°C tested). The Force™10 Typhoon™ Mask is compatible with both JSP Classic filters and JSP PressToCheck™ filters, which allow for Daily Face Fit Reassurance™ so the user is confident of an excellent fit.

The valve is unaffected by any moisture, and therefore can be used with the same performance under very low temperatures (-40°C tested). The Force™10 Typhoon™ Mask is compatible with both JSP Classic filters and JSP PressToCheck™ filters, which allow for Daily Face Fit Reassurance™ so the user is confident of an excellent fit.

www.jsp.co.uk

Vetrotech Saint-Gobain Environmental Product Declaration helps specifiers



As part of its ongoing drive to become a key partner in sustainable construction schemes, **Vetrotech Saint-Gobain** has issued an Environmental Product Declaration (EPD) for its Contraflam 30 range. Verified by an independent third-party, the EPD is based on analysis of the product's lifecycle and details its environmental footprint, from raw material extraction through to production and processing. The EPD acts as an essential aid for specifiers and architects involved in projects with the aim of obtaining green building certification such as LEED, BREEAM, HQE or DGNB. Valid until 2023, the EPD itself can be viewed on the international EPD system's website, environdec.com. Rob Wood, Vetrotech UK general manager, outlined the reasons for the EPD: "This EPD represents several things for us and our customers. Although Vetrotech is recognised as the 'go to' partner for high-security and fire-resistance, we wanted to leave specifiers in no doubt over the unrivalled sustainability credentials of our systems. Reducing the environmental impact of construction is a huge priority for our industry – and rightly so."

024 7654 7620 www.vetrotech.com



Viessmann introduces new air-source heat pumps

Viessmann has introduced the Vitocal 200-A and Vitocal 222-A, with innovative noise-reduction technology. Both operate so quietly that they are suitable for densely built-up areas such as terraced housing estates, and both have high energy efficiency with low operating costs. Both heat pumps feature Viessmann's new Advanced Acoustic Design. This combines a sound-optimised fan designed to harmonise the acoustic frequency range with intelligent speed control to reduce airborne noise at full- and partial-load operation. This effectively stifles the lower frequency sound of conventional heat pumps which can be perceived as disturbing. The result is that the pumps are barely audible: noise pressure in night mode at a distance of three is a mere 35 dB(A). Installation of the Vitocal 200-A and 222-A is easy. No minimum distance is required between the indoor and outdoor units, no refrigeration leak test is required because the cooling circuit is hermetically sealed, and no F-gas certificate is needed because the connecting pipes to the outdoor unit are filled with water. These new heat pumps are also simple to operate, via the Vitotronic 200 control unit with its easy-to-read plain text and graphic display. Controls can be altered anywhere via the Vitoconnect web interface and free ViCare smartphone app.

info-uk@viessmann.com

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Why specify Zenon rooflights?



Rooflights play a vital role in the modern building but are often overlooked. They are the common link to many aspects of building design and can help the designer, the building owner and the occupier to achieve a more sustainable, energy efficient and enjoyable place to work and to live in. Well considered rooflight design at the outset of the building concept can have dramatic effects on all aspects of the building from the owner's potential asset value to the well-being and productivity of the occupants.

Buildings that provide high levels of natural light are more positive working environments than those which are dependent upon artificial light. It is known that people respond better to working in natural light conditions, as the eye and brain functions work better, resulting in improved concentration and overall performance. Plus, of course, less dependency on artificial light significantly reduces energy consumption and running costs as well as impacting positively on the buildings overall carbon footprint.

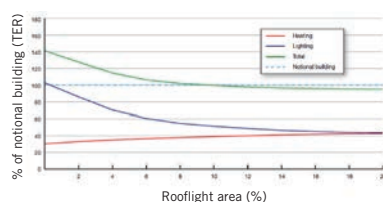
In new buildings where high levels of insulation are now being installed, the most significant savings in energy can be realised through the utilisation of the free resource that is natural daylight. The energy consumed by artificial lighting far exceeds the relatively small amounts of heat energy that are lost through increasing the rooflight area, which is a small part of the whole building fabric. The amount of energy required to light a well-insulated building is far greater than the amount of energy required to heat it and can be the greatest single energy use in the operating the building.

Of course, artificial lighting will always be essential in occupied buildings subject to occupational requirements, particularly in the winter months or in areas where localised specific or constant lighting levels are required, but even low energy lighting systems can create relatively high energy demands. More so when the lighting is turned on and left on throughout the daylight hours irrespective of need where automated lighting controls have not been incorporated into the design.

Thermally efficient insulated rooflights can further reduce heat loss and energy consumption. The effectiveness of rooflights as a contributor to energy efficiency are acknowledged in the Building Regulations Approved Document Part L. It recommends



that industrial and commercial building structures should have a rooflight area of 10 per cent to 20 per cent, subject to limiting solar gains. Research by De Montfort University and published by the National Association of Rooflight Manufacturers (NARM) demonstrates the savings that can be made by increasing rooflight areas.



Source: NARM NTD06.2 2014 Designing with Rooflights

This graph demonstrates the reduction in CO₂ emissions of a typical notional building as the rooflight area is increased to the optimum 16 per cent to 18 per cent and used in conjunction with a fully automated lighting control system.

Rooflights are a simple and cost-effective choice to introduce a more even and useable distribution of natural light, particularly in large structures where light is required deep into the building or in enclosed areas that cannot be lit through an external wall. Increased areas of light-diffusing rooflights, often with lower light transmission or improved thermal performance, can optimise the energy performance of the building, and there are many permutations of performance to choose from. Reduced areas of rooflights with high light transmission levels and poor diffusion that create glare and hotspots, while still leaving areas of shadow and gloom that must be overcome with localised artificial

lighting, only demonstrate poor consideration to the daylight design.

Another element to consider is a BREEAM assessment. Many local authorities now insist on this before they will give planning permission, therefore it is vital to optimise the rooflight design, distribution and product type. Using rooflights with low or reduced embodied carbon is a further example of good product selection that can have a significant effect on the BREEAM assessment.

Ultimately;

- Clients need to have buildings to meet the stringent regulatory requirements that will continue to tighten, or even exceed them.
- Achieving a BREEAM rating of 'Excellent' as opposed to 'Very Good' can make a significant difference to the developer who is looking to let a large industrial or warehouse building to a prospective client.
- Having a building that is lit by natural daylight will improve the efficiency, productivity, mental alertness and the general health of the occupants that work in the building.
- In combination with good air-tightness and low fabric U-values, a reduction in the use of artificial lighting is the best way the building occupier can lower the energy cost of running the building.

When considering the design of a building it is now vital that rooflights, rather than being an afterthought, are treated as an essential design element right from the start.

The Hambleside Danelaw Zenon range offers more rooflight material and insulation options to deliver the right specification for the project.

01327 701 900

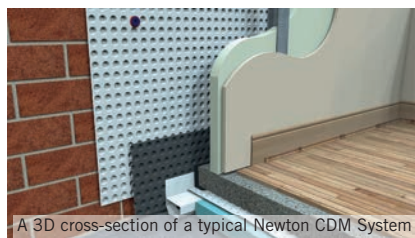
www.hambleside-danelaw.co.uk

A Flood-Proof Waterproofing Solution for Your Home

In recent years the UK's winter storms have been a firm reminder of the threat posed by flooding. In 2015 especially, storms Desmond, Eva and Frank wreaked havoc on over 16,000 residential homes. Newton Waterproofing examines how cavity drainage systems can assist those who are recovering from, or facing the threat of flooding.

Cleanup

The greatest challenges following a flood are to make damaged properties fit for



A 3D cross-section of a typical Newton CDM System

reoccupation, and to protect them from future flooding.

However, one of the biggest delays in the cleanup is the need to allow saturated walls to dry out. This can be as slow as one month per inch of wall thickness, and cannot begin until all contaminated materials are removed and a 'Decontaminated Building and Sanitation Certificate' has been issued.

Recovery

Speeding up this process is therefore a crucial part of any effective flood management strategy, and internal cavity drainage systems are perfect for the role. The cusped waterproofing membranes create an air gap between the membrane and the wall, providing two major benefits:

- Separating the damp wall from the internal environment, allowing new surfaces and finishes to be installed immediately
- Creating positive vapour pressure that 'moves' dampness out of the property. As



vapour moves from the inside to the outside in an attempt to equalise, damp in the walls is also moved outwards

Reoccupation and Remediation

Cavity drainage systems maintain the structure while protecting internal environments, allowing new finishes to be applied with peace of mind, and enabling reoccupation significantly earlier than if the walls were required to dry out naturally.

Finally, cavity drainage systems also protect properties against future flooding, forming an integral part of an overall flooding solution.

01732 496511

www.newtonwaterproofing.co.uk

Marmox soundboard supplied



A development of 55 luxury apartments is making full use of the acoustic and other performance benefits offered by Marmox SoundBoard in completing the floor construction. Canbury Construction has been kept supplied with thousands of square metres of both board types through one of Marmox's many stockists in the south-east. Marmox SoundBoard, like its sister product, Multiboard, features a totally waterproof core of extruded polystyrene (XPS) sandwiched between layers of glass-fibre reinforced polymer concrete, offering both thermal insulation with a conductivity of 0.035 W/mK and high compressive strength.

01634 835290 www.marmox.co.uk

Deanestor announces record orders



Deanestor, a contract furniture and fit-out specialist, has announced a record order book and strong financial performance this year. The business has generated £20m of orders in 2018 from contractors and developers – a

record order intake in the history of the company. This is a 40 per cent increase on the same period last year and has secured projects for the business for 2019 through to 2020. Deanestor provides high quality contract furniture solutions to construction clients and contractors for healthcare, education, student accommodation, build-to-rent and laboratory projects – both new build and refurbishment.

enquiries@deanestor.com

Still at its best, Johnson & Starley Warm Air Heating



Johnson & Starley's WarmCair condensing warm air heating range is suitable for a wide range of applications including private residential and social housing as well as smaller commercial applications such as schools, sports facilities, nursing homes and community centres. With rapid warm up times and low noise levels, models are suitable for new builds and the direct replacement of existing warm air systems. Designed for simple and quick installation, the WarmCair warm air heating system offers many space saving and room layout advantages over wet heating systems. There is a choice of upflow or downflow models available with or without hot water and incorporating a stainless steel heat exchanger and other first class component to ensure long life and low maintenance costs. Compliant with Building Regulations Part L, WarmCair heaters produce up to 36kW heat output and are up to 98 per cent thermally efficient. Savings in gas consumption can be as much as 28 per cent. An optional 'Cleanflow' electronic air filtration system provides the added benefit of filtered air with the ability to filter 95 per cent of airborne pollutants as small as one micron including pollen, dust and cigarette smoke.

01604 762881 www.johnsonandstarley.co.uk

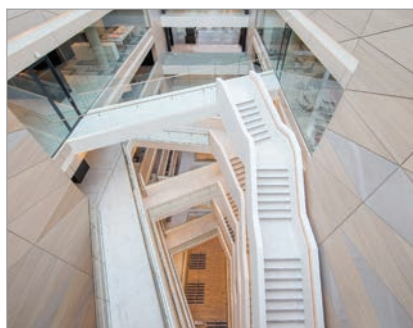


A show-stopping demonstration of success

Ireland's most iconic new building, the Central Bank of Ireland on the banks of the River Liffey, was recently renovated into the show-stopping demonstration of success it is today, after sitting for years as an unfinished shell; a symbol of the recession. Now it breathes new life as Ireland's first ever BREEAM "Outstanding" rated building, setting an example of progressive construction that thinks about the future.

Architects Henry J Lyons achieved this by designing the large sweeping interiors to be as user friendly as possible for the Bank's staff, by specifying acoustic wood panels from Woodfit Acoustics, made from MEDITE PREMIER FR. This MDF panel from MEDITE SMARTPLY is flame retardant for safe use in public buildings and is produced using FSC certified timber, from sustainably managed forests in Ireland; all the essentials to make this board suitable for the Bank's new interior.

In doing this, the building is reaffirmed as a symbol of renewal, recovery and wellbeing, both economically and by offering these



elements to those who use it as their daily workplace. The modern interior is conducive to teamwork and collaboration through use of natural light, safe, natural materials and acoustic performance.

Supplied by Noyeks, Woodfit provided the custom-made acoustic systems and non-acoustic panelling throughout, using veneered MEDITE PREMIER FR, variously finished for use in different areas. The finished panels range from ebonized slat ceilings and slat walls, custom white washed perforated

panelling which extends seven storeys high, and perforated oak ceiling tiles throughout the work areas.

The environmental building standard BREEAM is one of the world's leading sustainability assessment methods for construction. Awarding credits for use of FSC certified building products, it recognises and reflects the value in higher performing products and projects across the built environment lifecycle.

MEDITE PREMIER FR is produced in both Euroclass B and C. CARB2 compliant, it also has a smooth finish and can be made in a range of sizes and thicknesses, giving it the versatility to suit numerous applications from hotel foyers, offices, public libraries, schools and other public buildings. It's suitable for use as a wall lining and in ceiling applications, and has been certified for use in fire resistant partition systems.

info@mdfosb.com
mdfosb.com/en/medite/products/medite-premier-fr

Material World

Following the enormous success of its first Product Specification Showroom which opened in London in 2016, James Latham has just launched its second showroom, this time in Manchester.

Just like the London studio, the new Manchester facility reinforces Latham's single-source supplier status, showcasing an enormous range of its exclusive and semi-exclusive decorative panel and timber materials all under one roof.

Rob Goodman, Specification Manager, James Latham said, "This new showroom really is a one-stop-shop for specifiers and has been created to inspire the North West's architectural and design community who are looking to specify materials for both inside and outside the building, providing expert advice and enabling them to keep abreast of the latest trends and developments in surface solutions."

"James Latham's enormous product portfolio includes some of the most recognised panel and timber brands in the world and just like our London showroom, this new facility is the perfect platform to



showcase the sheer breadth of our offering, all from a single source."

As well as a showroom, the space is also being used for networking events, surface and material launches and demonstrations, presentations, meetings, training and CPD seminars.

Please visit James Latham's website for updates on forthcoming events and follow them on twitter and facebook or why not drop in and take a look around.

The showroom, which is located at 31a Tib Street, Manchester, M4 1LX is open between 9.00am and 5.00pm, Monday – Friday.

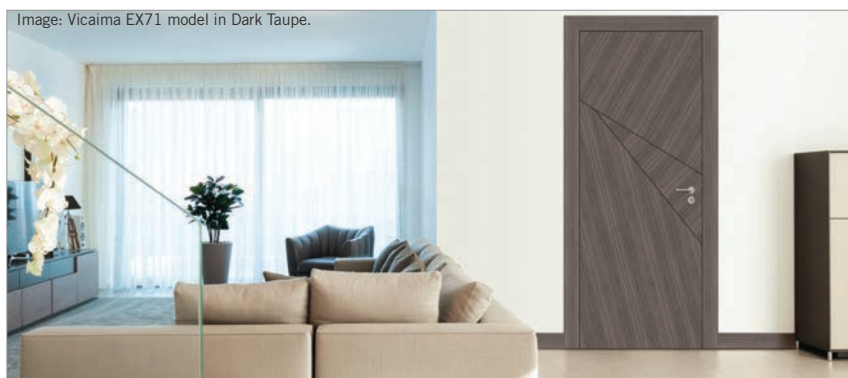


0161 537 1185
www.lathamtimber.co.uk

Create Transform Innovate

Designing doors is an art form which comes naturally at Vicaima. Blending on-trend colour tones and surface materials such as veneer, laminate and foil with lacquers and stains to elevate the simply to surprising. Capturing truly fresh ideas that have the ability to harmonize with an existing theme or completely transform their surroundings.

Among the many recent creations to make the leap from drawing board to reality are two new additions to Vicaima's Exclusive range. The Ex20 collection blends the purity of white, acting like a canvas to off-set striking and modern grain patterns, forming a door which is almost abstract art. This collection presents no less than five models and offers a choice of grained tones, including Dark Ebony, Bleached Oak and Zebrano in both Golden and Rouge. For designers and specifiers looking for a more geometric style, the Ex70 collection displays multiple grain directions intersected by a commanding jet black and curved groove. These real Ash veneered doors come in four models and are stained in a choice of contemporary tones,



which include Warm Umber, Dark Taupe and Charcoal Brown; making them perfect for modern environments.

Of course innovation is not only confined to the appearance of a Vicaima door. The beauty of these products go far more than skin deep. With manufacturing expertise that has been honed for almost 60 years, Vicaima performance solutions in acoustics, security and of course fire doors, are widely recognised in the industry as a benchmark

to which many aspire. This and Vicaima's suitability for multiple locations makes them an ideal choice for luxury living, hotels and commercial applications.

If you would also like to know more about Vicaima's latest collections or indeed any of the design and performance solutions provided, visit the website.

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Manchester residential development chooses SE Controls

One of Manchester's latest high rise residential developments, Cambridge Street, is using smoke control systems from SE Controls to provide a safe environment for residents, by ensuring escape routes are kept clear of smoke in the event of a fire.

Designed by Hodder & Partners and constructed by developer-contractor, Renaker Build Ltd, the new building stands on a previously derelict 0.35 hectare site and now provides 282 private rental apartments within two towers, which stand 19 and 28 storeys above ground level.

With such a large number of apartments at Cambridge Street, fire safety is an essential consideration of the building's design with the smoke control system being an integral part of the solution.

Each tower has its own escape staircase at the centre of the structure, which is protected by SE Controls smoke ventilation and control systems. These systems are code compliant to Building Regulations Approved Document B, as the travel distance from each apartment is less than 7.5 metres.

Every floor of each tower is fitted with an automatically opening smoke vent door, leading to a dedicated smoke shaft, which

includes a SHEVTEC automatically opening louvre at roof level. This allows smoke and hot air to be vented and ensures corridors and escape routes are kept clear. On the top floor of each block, an additional corridor roof vent is also incorporated as part of the design, which is controlled by a dedicated SHEVTEC control panel.

The smoke vent doors use SE Controls actuators, which are compliant with BS EN 12101, and these are controlled by a series of OSLoop controllers that provide instant response in the event of a fire to ensure the appropriate doors are opened, allowing smoke to escape.

Cambridge Street, is also installed with SEcloudlink™, a remote services solution from SE Controls that uses 4G communications technology to constantly provide system status information, allowing data to be displayed remotely to enable facilities and building managers to monitor the building's smoke control system.

Michael Scrimshaw, Business Development Manager for SE Controls said: "Cambridge Street has rapidly become an iconic landmark on Manchester's skyline with its white tile cladding contrasting with the red brick of adjacent listed



buildings. We're delighted to have been involved with the project, as Renaker Build has delivered a high quality apartment building, which is an attractive proposition in the growing private rental sector."

01543 443060 www.secontrols.com

Luceco lights new education facilities in Dubai

Amity Group have chosen Luceco to provide an energy efficient LED lighting solution for a new educational establishment in Al Quasis, Dubai. Luceco delivered a complete lighting solution for both the interior and exterior of the school's facilities. Amity School Dubai is designed to meet the highest standard of education, offering learning that is interdisciplinary, engaging, and challenging.

With an ideal location, situated in the Al Qusais School Zone, the facility covers a 14-acre area featuring light filled, modern buildings and state-of-the-art facilities. Dedicated spaces within the education facility are used for learning enrichment programs such as ICT, Art, and Music. The Library provides a range of learning opportunities where students can have access to various resources, as well as information technology.

LuxPanel luminaires and Platinum Downlights were installed in classrooms and assembly rooms and IP65 rated LuxPanels were used in laboratories. Supplied with remote 'plug and play' drivers, available in standard fixed output, dimmable and



emergency options, high efficiency LuxPanels boasts a market leading efficacy of 152 Lm/cW and are quick and easy to install with no maintenance requirements.

Externally, recreation areas, the swimming pool and sports courts were lit with commercial floodlights and Atlas bulkheads, bollard fittings and buried up lighters, provided the amenity lighting around building.

Atlas provides an alternative to traditional 28 and 38-watt 2D compact fluorescent fittings. Atlas luminaires can be installed with an integral microwave sensor to further reduce energy consumption. With the corridor function selected, the sensor adjusts the light level to 10 per cent of the normal level when the outdoor space is unoccupied.

Finally, commercial grade floodlights from Luceco were used at Amity School Dubai. Die-cast aluminium housing, asymmetric polycarbonate lenses with toughened glass and pre-wired with H05RN-F rubber cable all contribute to the benefits of this exterior luminaire. Available in 50-220W, 5200 to 23,000 Lumens achieving 105Llm/W, these commercial grade floodlights provide illumination for many external applications, commonly replacing HID fittings.

01952 238100 www.luceco.uk



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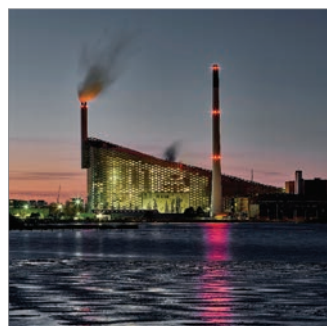


Developers building in style with ultra-thin worksurfaces

Housebuilders are the largest growth area for sales of Zenith solid-core laminate worksurface. Nick Jones, Sales, and Marketing Director for **Wilsonart UK** said: "The demand for Zenith has been remarkable since its launch in 2016. We were the first to market with a slim solid core product range of its kind. We knew it would appeal to kitchen and bathroom designers but the success of Zenith with builders and contractors has been a fantastic bonus. Zenith is 100 per cent solid and waterproof which means it can be stored on site. It's adaptable and easy to handle on site too so can be cut as it is required for kitchens, bathrooms, utility rooms and WCs with no need for off-site templating." Available in three convincing textures mimicking either concrete, granite or wood, Zenith offers a compelling range of design options: Curves, thick-and-thin surface combinations and co-ordinating backsplashes are easy to create and can be fixed at the same time the kitchen or bathroom units are being installed. Zenith has a decorative surface finish on both sides, perfect to create waterfall-end panels and co-ordinated bespoke open shelves. In a kitchen an under-mount sink with drainer grooves that reveal the stunning black core are practical and easy to create.

www.wilsonart.co.uk

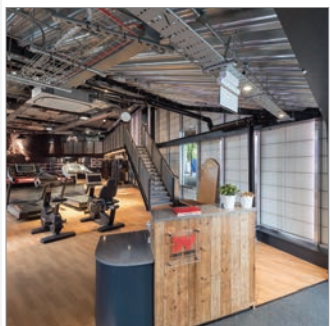
Reducing the risk



A revolutionary new project in Copenhagen designed by Bjarke Ingels Group Architects has turned a waste-to-energy plant into a 95,000 square metre tourist attraction. Located on Amager island, the Amager Resource Centre incorporates a ski slope into the roof, walking trails and a rock-climbing wall up one face. All this build on the island's reputation for extreme sports enthusiasts, thanks to its parks, beaches, dunes and lagoon for kayaking and windsurfing. The 100m building will incinerate over 435,000 tons of waste per year and serve about 140,000 local households. Given the potential dangers of such a massive operation, **Structura Kalwall®** translucent cladding has been used extensively not only for its aesthetics and energy efficiency but also for its excellent explosion-venting and blast-resistant properties. Kalwall can be specifically designed to be the weak point in the building envelope in order to relieve pressure created by any explosion, thereby reducing the risk of damage to the primary structure and the occupants. The panels work to vent pressure out of the explosion without collapsing roofs or floors. Kalwall also provides dramatic savings in energy consumption.

www.structura-uk.com/kalwall

Helping Grenfell survivors get fighting fit



As part of the BBC *DIY SOS* build to support the Grenfell community, **Structura UK** is proud to announce it has helped to realise the ambitious project to build a new Community Centre and a replacement Dale Youth Amateur Boxing Club – located in Bay 20 of the Westway. Both projects are aimed to support the survivors of the Grenfell disaster. Over 200 square metres of Kalwall® translucent cladding has been used along the whole elevation of the new Boxing Club using the newly adapted THERM+ 'stick built' curtain walling system from RAICO. This is the first project realised using the new system and has worked remarkably well. The ability to conceal the fixings and screws coupled with the mill-finished aluminium framing has created a wonderfully smooth and dramatic facade. This new Kalwall+Raico system offers incredible versatility, even allowing the switching of materials – such as aluminium, steel or glued laminate timber (Glulam) – within the same facade. Kalwall is a popular choice for projects where performance, long life cycle and low maintenance are required, coupled with an aesthetic finish.

www.structura-uk.com/kalwall

Creating the perfect acoustic ambience



The Experimentarium museum in Hellerup, Denmark has been listed as one of the 'Greatest Places to visit 2018' by Time Magazine. Following an extensive renovation, guests can now dive into a virtual submarine safari, zoom in on the world of microorganisms or travel through the Tunnel of Senses to explore sight, touch, smell and sound. However, one distraction they will not hear are the loud echoes and reverberations in the exhibitions and galleries from the noise and chatter of the thousands of daily visitors. This is because architects CEBRA have specified **Troldtekt** wood wool panelling extensively throughout. These panels, in white and grey, counterpoint the museum's raw and industrial feel and contrast with the design elements of the copper, aluminium and glass. Troldtekt ceiling panels provide a very high-performance sound absorbing surface which absorbs and reduces the noise and reverberations bouncing off the interior hard surfaces. In addition, because the ceiling is suspended, it can be removed or adapted to accommodate exhibition changes within the 11,500sqm of public space.

www.troldtekt.co.uk

BauderROCK

Noise Reduction and Sound Absorption

BauderROCK insulation within a waterproofing system provides exceptional benefits for airborne sound and rain noise reduction, and sound absorption within a building. This insulation is suitable for all flat roofs utilising single ply or bitumen membranes in a warm roof construction.

Mineral fibre insulation is produced through spinning molten rock to create a mass of fine, intertwined fibres and pressed into boards. The insulation is produced as flat board, trapezoidal infills or tapered to create falls on the roof.

BauderROCK is particularly beneficial where projects need to deliver a high level of sound diminution for the building occupants. Addressing the acoustic performance of a flat roof early in the design process is key in ensuring an effective solution. The three considerations in acoustic design are airborne sound, rain noise intensity and sound absorption.

Airborne sound

Airborne sound, such as road, rail and air traffic, and surrounding industrial operations, is transferred from a building exterior envelope into the building interior. The BauderROCK mineral wool insulation significantly reduces noise transmitted through the roof by 47-48dB.



Rain noise intensity

Rain noise reduction is a separate consideration, relating to the impact rainfall can have on the indoor noise levels. The BauderROCK predicted Rain Noise Intensity reduction measures between -52.5dB and -52.0dB (235mm and 255mm), making it a suitable choice to meet the acoustic requirements in all room spaces in educational and healthcare buildings.

Sound absorption

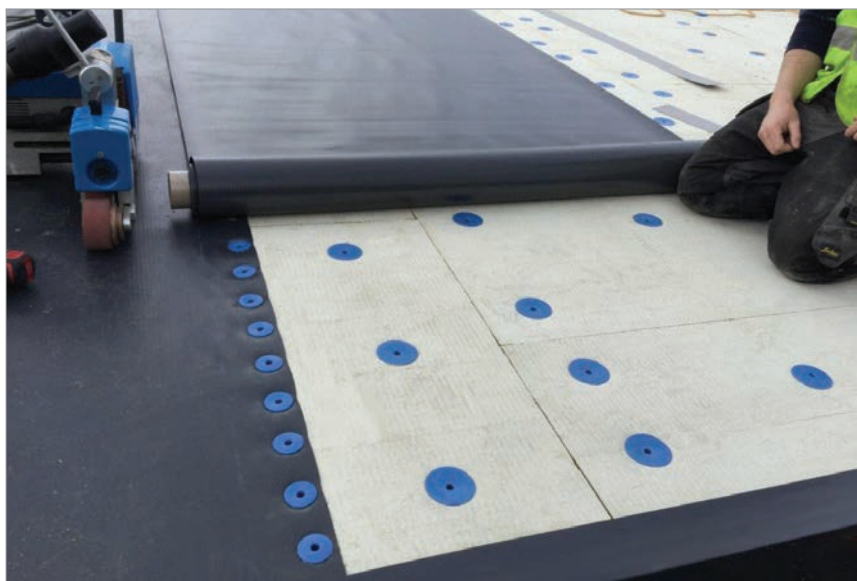
Noise created from within a building requires a sound absorption solution. Reducing this noise level is especially crucial in buildings such as sports halls and manufacturing plants where there is often a great deal of noise generated from within the building. BauderROCK Acoustic Infill provides high performance sound absorption when utilised with perforated metal decks. Bespoke infill trapezoidal 'wedges' are cut to fit the specified roof deck. The combination of optimised density, fibre direction and excellent fit provides a significant improvement in sound absorption when used together with BauderROCK insulation on perforated metal roof decking constructions.

A BauderROCK system of 235mm offers a U value of 0.15 W/m²K and 255mm a U value of 0.16 W/m²K. By incorporating the air and vapour control layer (AVCL), we are able to deliver a single system that meets both the acoustic and thermal requirements of current building regulations.

Key features

- Increased acoustic performance
- Non-combustible
- Zero GWP rating
- Zero ODP rating
- Multi-purpose facing

0845 271 8800
www.bauder.co.uk





Hauraton RECYFIX® PLUS drains the new City Quays in Belfast City Centre

The City Quays development, currently under construction, is a £250 million investment to regenerate 20 acres of unused dockland in Belfast City Centre. The development will eventually include 'Grade A' office space, residential blocks, leisure facilities, a large hotel and retail complex all with designated car-parking. Once complete it is planned the City Quays project will achieve a BREEAM Excellent standard, one of the highest sustainability rating for new developments.



At about 250 metres long, the new City Quays promenade is laid with a two tone granite block pavement which is drained with 230 metres of Hauraton RECYFIX® PLUS 200 channels fitted with Class D400, HEELSAFE ductile iron gratings.

The RECYFIX® PLUS channel unit is made of tough, virtually unbreakable recycled polypropylene (PP) formulated to be very resistant to daily temperature fluctuations from frost conditions to strong sunlight, including the Ultra Violet (UV) spectrum. The channel unit also features galvanised steel top edges which house the ductile iron gratings.

Complying with the requirements of EN 1433, the PP is given its UV resistance by adding just sufficient carbon black as a stabiliser so that the structural strength of the material is unaffected and a consistent appearance is maintained. The PP is also naturally resistant to de-icing salt.

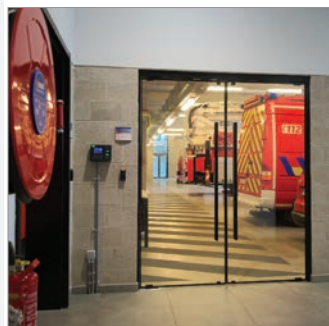
Andy Beirne, Area Project Manager for Hauraton Limited was please the project



went so smoothly, "The channels were delivered to site with their gratings factory fitted, yet as each one metre unit weighed less than 25kg ground-workers Earney Contracts Limited found them easy to handle and install. As with all Hauraton surface water drainage channels, the performance of the RECYFIX® PLUS range complies with European Standards (hENs) and carries the CE mark".

01582 501380 www.hauraton.co.uk

Unique design and unrivalled fire protection with Lunax doors



Lunax, recently acquired by Vetrotech Saint-Gobain, is delighting architects throughout the UK. With the addition of this new solution, Vetrotech Saint-Gobain has enhanced its range of systems in line with the growing architectural trend of combining building transparency, design and high safety standards. Traditionally, form has followed function when it comes to fire protection – but Lunax has changed that. Incorporating versatile Contraflam safety glass and just four discreet clamps, its aesthetic appeal combines on-trend transparency with heightened fire safety. The development of Lunax has been driven by achieving not just fire protection, but beautiful aesthetics that maximise natural light, whilst integrating its four framing solutions. Doors can be customised with a large choice of handles, screen printing, coloured glass and many additional door accessories. Architects have the option to specify single, double or asymmetrical double doors - ideal for both new build and existing spaces. And as a building's design affects the wellbeing of its occupants, architects are increasingly seeking to source products that address this. Crucially, Lunax doors are fire resistant on both sides.

024 7654 7620 www.vetrotech.com

Garador offer full range of door sizes



There are lots of reasons why people today are requiring larger garages. Vehicles can be bigger; and garages are often used to keep fitness equipment or for general storage. Larger garages can be built without problem thanks to the range of extra wide garage doors available from Garador. British garage door manufacturer Garador offers a selection of its popular Up & Over garage doors in especially large sizes all the way up to 5000mm wide and sectional garage doors up to 5500mm wide. "Larger garages are becoming especially popular in new builds and in conversions," said Neil Discombe, Managing Director of Garador. "We offer a range of door sizes, with both sectional and up & over garage doors in sizes over 10 feet wide, all produced within our own manufacturing group to maintain product quality." Garador's expertly engineered double Up & Over doors are quick and easy to install and come in a wide range of materials and a great choice of styles and colours. The larger doors can easily be fitted with a GaraMatic electric door operator for a quiet, smooth and fast automatic opening.

01935 443709 www.garador.co.uk

Funding Options for Flat Roof Solar PV

A school's flat roof offers the ideal space for a PV array as the unobstructed area enables maximum exposure to sunlight, optimising energy generation. Solar panels on a flat roof are out of sight, simple to install and maintain and thoroughly cost effective particularly as there are various funding and investment streams available for solar PV projects. This means your school can benefit from the advantages of a PV array, with no capital outlay.

Photovoltaic panels provide educational buildings with renewable energy, financial savings and practical learning opportunities to support the curriculum as well as generating a potential income and reducing carbon footprint. There are three main schemes that can be accessed to fund solar projects.

Power Purchase Agreements (PPA's)

Private funders offering a PPA solution enable property owners to take advantage of a fully installed PV system for zero capital outlay. The school enters into a long-term



contract to purchase the electricity generated by the solar array from the private funder at a rate that is lower than their current purchase price and guaranteed for 20 years. As the array is owned and maintained by the funder there is no maintenance requirement for the building owner.

Community Funded PPA's

Similar to a PPA, but capital is raised to provide funds for the installation of the solar array through a community share offer. The school benefits from reduced energy costs, but the PV array is owned by the cooperative

or community benefit society from whom the building owner purchases the electricity.

Salix Finance

Salix enables public sector organisations across England, Scotland, Wales and Northern Ireland to take a lead in tackling climate change by increasing their energy efficiency. Salix provides 100 per cent interest-free capital for the public sector to reduce their energy costs by enabling the installation of modern, energy efficient technologies and replacing dated, inefficient technologies. Repayment can be made over a four to eight-year period.

Bauder provides a full service from funding application support through to system installation, whether you are looking to retrofit solar PV panels or incorporate renewable energy into your flat roof refurbishment project.

Book a meeting today to start planning your solar PV project.

0845 271 8800 www.bauder.co.uk

Hauraton channels installed at Oldham Academy North

The new Oldham Academy North, designed by architectural practice Aedas Architects, is a spacious and colourful three storey building set in sensitively landscaped grounds. With the site being quite flat, and the building surrounded by paved and asphalted surfaces, it was essential rainwater is drained effectively.

A Hauraton RECYFIX® PRO 100 channel system, fitted with FIBRETEC® C250, 9mm slot gratings, was used by groundwork sub-contractor Westoak Construction to drain the paved playgrounds and asphalted car parks. The channels were also installed along parts the building's facade and across entrance doors to facilitate drainage.

The FIBRETEC® C250 HEELSAFE slot grating was specifically designed by Hauraton R & D engineers to enhance the flow of water into the channel. The slots are super smooth, elliptical openings with the moulded bars having slightly raised triangular bosses along their outside edges. As well as providing an



elegant appearance, the feature ensures surface water is directed into the slots. This configuration also helps eliminate any cross-flow over the grating.

The RECYFIX® channel component is made from 100 per cent recycled PE-PP. The six sizes offered are 160mm wide and range in height from 75mm to 201mm with the FIBRETEC® grating factory fitted on all models. As the largest unit is only 4.6kg, RECYFIX PRO channelling is easily handle and quickly installed on site.

Ian Burton, Hauraton's Project Engineer comments; "Light and dark grey granite paving blocks were used extensively to achieve a pleasing aesthetic appearance to the hard landscaping immediately surrounding the Academy buildings. Being particularly suitable for school yards and play grounds, our RECYFIX® PRO channels' with their black FIBRETEC® gratings' were chosen for this project as the grating's smooth appearance blended in well with the desired design effect."

01582 501380
www.drainage-projects.co.uk



Here to help customers grow

Freefoam highlights the updates and additions to its whole product range that have taken place over the last six months. The roofline range has had a boost with the addition of Anthracite Grey to the Round Rainwater system. With the continuing growth in grey across the window, door and roofline market this new product means suppliers can now offer both the Deep and Round gutter options to customers. The phenomenal demand for cladding shows no signs of slowing. Freefoam added a beautiful subtle grey green shade to its 170mm Weatherboard range called Sage Green. Appealing to those who want to achieve a traditional 'heritage' look but with the benefits of low maintenance PVC. Freefoam extended the Geopanel range adding new designs and colours including tile, slate and concrete effects. Freefoam has also added to its internal panelling range, launching Acrylic Panels. High quality, high specification panels suitable for kitchens and bathrooms in a contemporary colour range.

01604 591110 www.freefoam.com



A natural choice for Stunning New Home

Freefoam Building Products X-Wood Cladding has been used as a sleek contemporary feature to the front and rear elevation of a stunning new home on the outskirts of York. With such an individual design and high specification the owners wanted to ensure all exterior components were robust, stylish, long lasting and hard wearing. X-Wood is an innovative PVC-U exterior cladding that looks and handles like wood but without all the usual maintenance issues associated with timber. Freefoam have used their manufacturing expertise to design and produce a 16mm attractive high performance cladding board comprised of three different layers – a heavy duty through coloured plastic foam core, covered with a durable plastic skin and then coated with market leading Renolit film which creates a hard wearing, stable material with a beautiful subtle woodgrain effect finish. Suitable for both commercial and domestic new build or renovation projects. Please visit www.youtube.com/watch?v=6La-b6Y-6Vc

01604 591110 www.freefoam.com



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01344 868 668

www.sashwindow.com



A triple treat from VEKA Group

Industry-leading systems supplier VEKA Group has added three more strings to its bow, for the benefit of self-builders and homemakers. The Burnley-based PVC-U giant now offers perfectly colour-matched laminated mouldings, clip-on cills and a new, Halo large outerframe option via its network of customers.

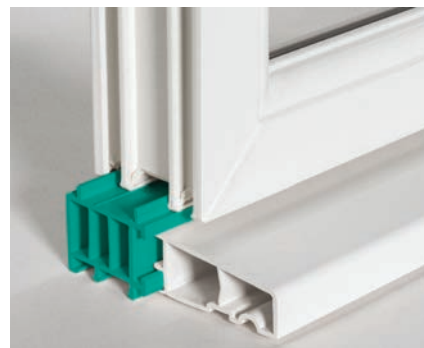
Marketing Director Dawn Stockell explains: "Earlier this year, we partnered with Allied Profiles to create a comprehensive laminated moulding offering that perfectly complements all the colours in our Variations range. Customers can order online for direct deliveries, so there's no need to visit a trade counter and, obviously, no longer any need to spray mouldings during fabrication.

"Secondly; knowing that construction sites can be hectic environments, with different tradespeople all trying to get their own part of the job completed, our new, two-part cill allows the 'nose' to be added at the end of the

installation, when the likelihood of it being damaged (and then re-ordered) is drastically reduced. It works with VEKA and Halo's chamfered and sculptured systems, plus is available in all 29 colours of the Variations collection to guarantee a flawless finish.

"Last, but not least, VEKA Group has also developed a large outerframe in order to help Halo customers achieve a perfectly professional finish on every project. The large outerframe allows more hinge-side plasterline clearance on residential doors without the addition of a 15mm frame extension and means there is no unsightly join line. It also means there are no additional stock items required as it uses the same reinforcing as in the 72mm outer. The minimum order quantity is just one pack, and all hardware used on the 72mm outerframe can also be used on the new 84mm outerframe.

As a large, and long-established company, VEKA is proud to be light



footed and adaptable to changing market trends. As such, as the last few years has seen demand grow drastically in specific areas, VEKA has, in turn, stepped up to the plate by adding Anthracite Grey Smooth to its ex-stock list this summer, as well as Cream to the Vertical Slider in both VEKA and Halo systems. All of these offer a perfect palette of options, whatever the project requires.

01282 716611 www.vekauk.com

Fascia and Soffit Complements Extension

The property based in Chelsfield, Orpington was having a kitchen-diner refurbishment and extension in a modern contemporary design. Dickens Developments – the contractor on site contacted ARP's Area Sales Manager – David Capel, as they had met at a previous site.

David was invited to a site meeting, where the extension was surveyed and the various Trueline fascia and soffit options were discussed.

Having completed the site survey, David provided a full quotation and Dickens Developments were then able to use their local Jewson's at Orpington to fulfil the order.

The bespoke Trueline Fascias and Soffits were made to measure in our in-house production facility, with CAD/CAM drawings produced and signed off by the client prior to going into production. The fascia profiles



were polyester powder coated in matt black RAL 9005 with an over trim covering the fixings on the fascia. The finish was completed with prefabricated corners.

These products were chosen as they suited the modern contemporary style of the extension, but also ties in with the windows and complements the overall design.

Aluminium was the perfect choice for the fascia and soffits on this property as it is strong, durable and non-corrosive.

With the ability to match the coating to the other elements of the building, ensures that the system blends with the rest of the property. Aluminium not only enhances the design elements of the extension, but will extend the buildings life span.

ARP are happy to work with clients who purchase through merchants, and can offer site surveys and site measures to help expedite the order.

0116 289 4400 www.arp-ltd.com



Schöck's steel frame challenge at university

Recent significant investment in Oxford Brookes University has already resulted in multi award-winning facilities and this development is continuing with a ten-year, £220 million estate investment plan. One recently completed facility has seen the former Main Hall demolished and replaced with the Sir Kenneth Wheare Hall, an elegant building, designed by BGS Architects. It is a tribute to one of the most influential figures in the University's history; and creates a multi-use space for teaching and other key university events, including graduation ceremonies, where it can accommodate over 600 guests.

Steel frame and cladding mean high thermal conductivity

Steel has a high thermal conductivity compared with many other construction materials and this means that both the structural steel frame and steel cladding system must be designed to minimise any unwanted heat flows. Steel elements must not be continuous through the cladding



system. With the Sir Kenneth Wheare Hall, support for the external cladding was provided by cantilever connections to the universal columns and it was critical to provide a structural thermal break at strategic connectivity points. The Schöck Isokorb for steel-to-steel connectivity was the ideal solution. By thermally separating the exterior steel structure from the interior steel structure, these modular thermal insulation elements with their stainless steel components and Neopor® insulation, reliably mitigate the risk of condensation, mould formation and corrosion. The units are also able to withstand extremely demanding loads and are effective against both bending moment and shear force.

Totally verifiable performance

The product type used at Oxford Brookes is for steel-to-steel, but the comprehensive Isokorb range from Schöck also offers solutions for concrete-to-concrete, concrete-to-steel and – and even a maintenance free alternative to wrapped parapets. When any Isokorb product type is incorporated into residential buildings or public buildings, the required fRsi value – the temperature factor used to indicate condensation risk that must be equal to or greater than 0.75 – is always comfortably met. The range also complies with the Government Standard Assessment Procedure, SAP 2012, concerning CO₂ emissions from buildings and respectively heat losses through non-repeating thermal bridges. Products meet full compliance with the relevant UK building regulations, have NHBC approval and offer LABC Registration. There is also the security of independent BBA Certification.

01865 290 890
www.schoeck.co.uk

P C Henderson Set to Exhibit at Leading International Tradeshow – BAU 2019



P C Henderson will be exhibiting at leading international trade fair – BAU – in January 2019 where it will be showcasing a selection of its high quality sliding door hardware. P C Henderson will be on stand 428 in hall B4, demonstrating some of its most popular and renowned sliding and folding door hardware products including; Securefold, Evolve, Roomflex and Flexirol Multidirectional. The company will also be launching three new hardware solutions to the market – presenting visitors with a first time opportunity to see, touch and use full working displays of the new products. Products to be launched at the event include Pocket Door Pro – a professional pocket door hardware system specifically designed for rapid installation in commercial applications. The system has been developed using advanced 'push fit' technology allowing for easy and rapid installation. Available in either manual or automatic operation, the hardware is also available as a fully certified fire rated system – to FD30 and FD60 standards. Visitors to the stand will also have the chance to view the company's new Husky Soft Close system – a straight sliding hardware system with integrated soft close and open.

sales@pchenderson.com

Garador's retractable up & over doors easy to automate



Delivering safety, security and years of trouble free service, **Garador's** steel Up & Over garage doors have long been a top favourite across the UK. Unlike canopy Up & Over garage doors, retractable doors are designed in such a way that they are really easy to automate with an electric operator.

Retractable gearing means the door panel opens on horizontal tracks running back into the garage. They can be easily automated with a GaraMatic electric operator so the homeowner can open their garage door by pressing a button on a hand transmitter.

GaraMatic operators are expertly engineered to ensure fast and smooth opening and the hand transmitters incorporate bi-directional radio signals which are heavily encrypted for high security.

Garador's retractable Up & Over doors also come with a unique parking position and multiple spring cassette, to ensure that the door is always safe to use. They come in a wide choice, of designs, colours and finishes.

A video explaining the advantages of Garador's retractable Up and Over doors is available on Garador's YouTube channel or find out more by calling.

01935 443794 www.youtube.com/garador



Cover image: MEDITE SMARTPLY
See page 07 for details