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FROM THE EDITOR

I'd argue that getting acoustics right in schools remains not only one of the most important aspects for both pupils' learning and teachers' wellbeing, but one of the most underappreciated. In this supplement devoted to design for education and healthcare facilities (which share a good amount of environmental factors for successful design), Michael Anderson of acoustic ceilings firm Zentia describes why the official guidance Building Bulletin 93 needs to be the starting point for designers.

BB93 (updated in 2015) states its objective as "design and construction of school buildings that provide acoustic conditions that enable effective teaching and learning." The acoustic criteria set out in the guidance relates to noise intrusion from external sources, insulation requirements between rooms, and controlling reverberation times within rooms, as well as additional requirements for pupils with hearing issues.

The 2015 update included the impact of natural ventilation strategies, and guidance on the control of equipment noise in teaching and learning spaces. It also included examples of construction details for sound insulation, new guidance on curtain walling and clarification of acoustics requirements between circulation areas, classrooms and non-teaching rooms.

There was also a significant amount of extra guidance on the acoustics aspects (and limitations) of designing 'open plan' teaching spaces, including speech intelligibility, a major factor in modern schools. There were detailed guidance for achieving the acoustic standards in refurbished buildings, and new noise limits for non-education activities in schools, and calculation methodologies for reverberation control in sports halls, swimming pools, gyms, and dance studios.

BB93 is 'mandatory' meaning that all spaces in any school have to be designed with the "acoustic conditions and the insulation against disturbance by noise appropriate to its intended use." However, is that too woolly in terms of the overall status of the guidance? Reportedly, many specifiers only refer to the minimum standards set out in section 1 of the document, and don't follow all of the guidance.

Can a fully healthy and efficient school building be created if BB93 is not followed to the letter, at least where the guidance clear? If that is done, will it be within all of the current cost parameters, or will it require a very difficult conversation with education clients?

James Parker, Editor

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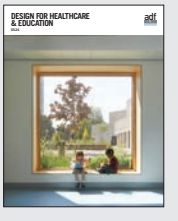

ON THE COVER...
FCBStudios honoured the proud history of Rotherhithe Primary school and celebrates the life, energy and positivity that makes it a forward-thinking educational establishment, and community hub.
For the full report on this project, go to page 14

Moving Towards Sustainability

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STUDENT ACCOMMODATION

Go-ahead for major 836-bed student accommodation in Birmingham

Acting on behalf of The Galliard Apsley Partnership, Knight Frank's Planning team has secured the green light from Birmingham City Council for a major new 836-bed purpose-built student accommodation (PBSA) development in Selly Oak, Birmingham.

The large-scale mixed-use regeneration project, which is located on the former Sainsbury's site at 1 Chapel Lane, will deliver two blocks of PBSA comprising 472 studios and 364 cluster flats, alongside 13,688 ft² of ground floor commercial space and a 13,374 ft² medical centre.

The approved scheme will breathe new life into a prominent brownfield site that has remained vacant for over five years, reactivating the Bristol Road frontage. It will provide significant community benefits through the new retail provision and medical centre facilities.

Knight Frank's Planning team secured the go ahead after its Land Agency team acquired the site on behalf of Apsley House Capital and Galliard Homes in early 2023.

"The development builds on Apsley House Capital and Galliard Homes' strong track record in Birmingham," said the firms, having delivered over 2,000 new homes across numerous mixed-use regeneration schemes in the city over the past six years.


Images © Corstorphine & Wright

The PBSA-led scheme was designed by award-winning architects Corstorphine & Wright to deliver high-quality living spaces for students with excellent amenities, including study areas, lounges, a gym and a cinema.

James Dallow, associate director at Corstorphine & Wright, added: "Corstorphine & Wright is proud to be part of this fantastic project."

Dallow added: "After extensive public consultation and a collaborative design process, this scheme will reactivate this underutilised site, redefine the High Street, and create new public spaces. It will provide much-needed student accommodation, in a sustainable location, that prioritises the wellbeing of its residents. We look forward to seeing this scheme move forward and progress."

INVESTMENT

Education projects provide boost for Watson Batty

Watson Batty Architects has announced a considerable boost to its education sector portfolio with a number of new instructions across the UK.

Since the Government committed to increase its allocation for upgrading schools, which includes £1.8bn for the 2024-25 financial year, Watson Batty has seen a "surge in business" with education now accounting for 32% of total turnover. This includes major new build projects for national contractors including Tilbury Douglas, ISG and modular building specialist Algeco UK.

Recent instructions include the design and delivery for a new science block at Saint Benedict Catholic Voluntary Academy in Derby, and a new 1,200 place 11 to 16-year-old school for Northampton School for Boys. Planning consent was recently secured for a replacement school at Beacon Academy in Cleethorpes, Tees Valley SEND School, Leeds City Academy and works are due to commence on a replacement building for Hempland Primary School in York.

Watson Batty is also working with the University of Leeds, Leeds Beckett University and Loughborough University to provide several new specialist health, science, and engineering facilities.

As an appointed technical advisor for the Department of Education, Watson Batty "employs a highly skilled team that specialises in all aspects of learning sector estates design ranging from early years, primary, secondary, and Special Educational Needs and Disabilities (SEND) through to further and higher education," said the practice.

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COMMENT

Practical moves towards 'person-focused' community healthcare

Bob Wills, director at Medical Architecture, explores the movement to design health facilities with a focus on individuals and not illnesses, and with less reliance on acute hospitals and more focus on integrated community facilities for holistic wellbeing

Published in February this year, a new report by The King's Fund offers a fresh perspective on a challenge that the NHS has faced for many years. It recalls that, "since at least 1974, and arguably earlier, successive governments have aimed to make the health and care system less hospital-focused and more focused on primary and community care."

It cites the World Health Organisation and its view that this approach is the most inclusive, effective, and efficient way to enhance people's physical and mental health and wellbeing.

This is about "improving both the experience and the quality of care that people receive, while boosting prevention or, at the very least, reducing the speed of onset of disease," says the King's Fund. "It is also about meeting people's needs and making sure each part of the health and care system is freed up to provide the care it is best placed to offer."

Many of us will recognise this as a proactive, preventative approach to health, as opposed to a reactive, treatment-based approach, with care delivered closer to people's homes.

Jean Bishop Integrated Care Centre © Jill Tate

There needs to be more of a focus on people and outcomes, rather than processes and outputs

Shifting the focus to community health

Despite this long held ambition, the report highlights a mismatch in action, with the proportion of Department of Health and Social Care spending on primary care falling in recent years from 8.9% in 2015-16 to 8.1% in 2021-22. Similarly, while the NHS has received additional funding in recent years, acute hospital trusts have seen 27% funding growth since 2016-17, compared to community trusts who have experienced just half that level of growth, at 14%.

The King's Fund report goes on to suggest reasons for the lack of change, before setting out a solution for refocusing of the health and care system, which is detailed and far reaching, covering policy, leadership, funding, and workforce.

A critical element to this is cultural change: "The increasing complexity of people's health and care needs requires an integrated, holistic response, rather than a 'body part' or single condition response. There needs to be more of a focus on people and outcomes, rather than processes and outputs." In terms of our approach to healthcare facility design, this is an important shift in thinking, and one that we have seen embraced in pioneering community health schemes in recent years.

Person-focused care

One example where this approach has proven to be successful is The Jean Bishop Integrated Care Centre (JBICC) in Hull. Prior to the project commencing, Hull and North Yorkshire Integrated Care Board faced numerous challenges. Hull had around 25,000 residents living with frailty, and 3,200 with severe frailty. As a result, the health system was overwhelmed with non-elective hospital admissions, struggling to find beds for elderly patients amidst peak admissions and growing demands from the ageing population. A 2012 study found that a third of older patients admitted to hospital in emergency had no clinical need to be in a hospital bed, and that admission quickly reduced the ability for vital rehabilitation and 'reablement.'

In response, and informed by engagement with residents, Humber and North Yorkshire ICS developed an 'anticipatory care' model that completely redesigned the approach – creating an out-of-hospital service to help people to stay at home and out of hospital. We were commissioned to work with stakeholders to develop the first facility which could deliver the care model effectively.

Adopting an entirely new way of delivering health services, the centre brings together a range of specialist services to provide a more holistic approach to health, care, and social support. Unlike regular community health facilities, where patients receive assessment and treatment for a single health complaint or condition, at the JBICC patients receive a full physical and mental health check, as well as help with other social challenges. They may spend an entire day there, but they leave treated and with a care plan. The type of facilities offered reflect this extended visit and include a cafe run by Inspire Hull, a charity which aims to improve physical and mental wellbeing, through the development of friendships and feelings of purpose. Activities are curated which bring people together to tackle feelings of social isolation.

Passivhaus: Cavell Community Health and Wellbeing Hub © Pillar Visuals

The therapeutic and non-institutional character of the design with views to gardens and landscape from many areas of the building, create a comfortable environment to support patients during these extended visits.

Relieving the strain on overstretched acute hospitals

A recent study, led by researchers from the Wolfson Palliative Care Research Centre at the University of Hull, assessed the wellbeing of patients who received this more holistic person-focused assessment at the centre compared to those who did not. It showed, for those living in their own home, a 15-20% reduction in emergency department (ED) visits and a 10-25% reduction in emergency admissions for the 12 months after their assessment compared to the 12 months prior. Also, for residents in care homes, there has been a 20-25% reduction in ED visits, and for the frail cohort who had more than five ED visits in the 12 months preceding their assessment, there is consistently over 50% reduction in ED visits and admissions in the following 12 months.

Clearly, then, long-term investment in the right kind of community-focused facilities can reduce demand for acute services and bring about savings to the wider healthcare system, as well as improving the wellbeing of individuals.

Sustainable evolution of the healthcare estate

The King's Fund points to a need to invest in primary and community healthcare estates to promote joined-up, integrated working locally between public partners across health, social care, and community services. However, despite recent initiatives to bring forward innovation in the delivery of community health, investment remains weighted towards capital investment to acute services; the New Hospital Programme being a prominent example.

Cavell Community Health and Wellbeing Hub © Pillar Visuals

The Cavell Centre programme, named after Edith Cavell, a British nurse during World War I, is one such initiative that looks to the future. The programme began after Medical Architecture, with John Cooper Architects, proposed the development of a blueprint for the transformation of primary and community care facilities in England. Developed with NHS England and NHS Improvement (NHSE/I), the aim was to optimise and standardise the briefing, planning and design process to allow the business case process to be streamlined, increasing quality and reducing design costs at each project stage.

The proposed Cavell Centres that emerged pioneered an approach to standardised yet adaptable planning, with a specific approach to MMC, net zero carbon design, and high quality, wellbeing-focused environments. Following on from this work, we were commissioned alongside Passivhaus design specialists Architype to co-design one of six pilot schemes for the programme – the only one to be designed to Passivhaus standards.

Social prescribing as a route to health & wellbeing

Like The Jean Bishop Integrated Care Centre, the strategic vision for the Cavell Centres recognises that social factors in health are as significant as clinical factors, and therefore combines both models to proactively address the barriers to improved community health and wellbeing. This formed a central feature of the pilot scheme design.

Setting a new standard for community health facilities, the building hosts a varied health and wellbeing offering, including multiple GP practices, community diagnostics, therapy services, outpatient services, third sector social prescribing organisations, and a health-centred commercial offer. The building is designed to be highly flexible to allow this mix of services and tenants to adapt over time. Strong internal connections to quality external landscaping with lawns, planting, and water features; and inviting, non-institutional internal spaces; enable a variety of wellbeing activities. This, combined with access to local authority support, links patients with opportunities for social prescribing, integrating health and wellness into the community.

Competing priorities for limited funding

Currently, NHSE has paused the development of the project business cases to focus on developing the programme business case ahead of a bid for capital funding for the programme at upcoming spending reviews. We are hopeful that initiatives such as the Cavell Centre programme will be able to demonstrate the benefit of a long term investment in a preventative approach to healthcare, in relieving pressure on an already overstretched system.

In their report, The King's Fund describes 'hierarchies of care' – urgent problems taking priority over longer-term issues – as a reason for underinvestment in community healthcare. For example, treatments for urgent medical problems taking priority over services that prevent the development of problems.

It recommends that leaders need to be clear about why a change in focus is needed: "which is to deliver improved care and improved outcomes, and to ensure the health and care system is sustainable for the future, rather than to deliver cost savings in the short term." Clearly, the challenges the health service faces are complex and multifaceted, and no quick solution exists, however successful pioneering projects like The Jean Bishop Integrated Care Centre, demonstrate the value of a person-focused, preventative approach, which the Cavell Centre programme is well placed to continue – if funded as a priority.

Bob Wills is director at Medical Architecture

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COMMENT

Answering the call for adaptable further education facilities

Andrew Baker of Rio Architects looks at how further education providers are calling for adaptability in their buildings, and how designers can offer unified, coherent and practical facilities for student, giving a recent Welsh example

Ongoing reforms in post-16 education in Wales and the wider UK are placing increasing pressures on colleges and the environments within which they teach. Welsh Government Ministerial priorities seek to provide a Further Education (FE) system that responds to the continually changing needs of the local industry and economic landscape, while also serving the rapidly evolving learning preferences of students. The demands on the curriculum can alter dramatically within a short period of time, giving college leadership teams the challenge of how to prepare a suitable learning environment which meets the specific needs within each academic year.

The adaptability of college estates and facilities is key to overcoming these challenges and is a primary element of a good project brief for any new build or refurbishment scheme.

During the early briefing stages of the 8500 m^2 STEAM (Science, Technology, Engineering, Arts and Maths) Academy development for Bridgend College at their Pencoed campus in South Wales, the discussions were very much focused on how to create coherent, harmonious, and inspiring design solutions that delivered cost effectiveness through spatial efficiency while also addressing the need to create spaces that could 'morph' in response to changing curriculum requirements.

The answer to the puzzle was multifaceted. In order to create more flexibility around the size of spaces, folding screens and partitions were reviewed and considered, but these can be costly and don't always address the fundamental issues. The solutions lie in basic principles of design; the range, layout, configuration and sizes of spaces and how these spaces are linked to one another.

Alongside specialist teaching spaces and workshops such as Mechanical Engineering, or Vehicle Engineering at the STEAM Academy, which have extremely specific and unique requirements, there are general teaching and study spaces of varying shapes and sizes, some of which are enclosed and some are open areas adjacent to the common circulation areas. This range and combination of spaces can together cater to a changing curriculum more effectively and efficiently than the more traditional approach of providing a repetitive single classroom typology.

Formal and informal teaching and study spaces appropriately accommodate class sizes or groups ranging from eight to 60. They are conveniently located to adequately support the specialist teaching workshops and can be easily shared between different departments through cross-curriculum timetabling to improve the utilisation factor. These spaces also work alongside one another to

HEAD OF STEAM
The design of the STEAM Academy development for Bridgend College followed "basic principles – range, layout, configuration and size of spaces, and how they are linked"

The more that spaces can be used for a range of activities, the greater their employment in meeting the needs of the curriculum more effectively

cater more flexibly for 'exploratory learning' techniques. Students can utilise quiet but accessible study areas throughout the building for all manner of educational needs including group exercises, impromptu discussions or meetings, one-to-one tuition, practice, display and exhibition. This approach to building design and configuration has also created a more animated and collaborative environment where greater connections between academic disciplines are made.

In their fight to reduce running costs, FE institutions are looking to ensure that their estates are efficient and that 'space utilisation' is high. Adaptability, flexibility, and good space utilisation go hand in hand. The more that spaces can be used for a range of activities, the greater their employment in meeting the needs of the curriculum more effectively. At the STEAM Academy, social spaces blend into study spaces and informal teaching spaces thus creating much greater efficiency and space utilisation as well as providing for greater flexibility and adaptability.

IT also plays a significant role in the ability to adapt spaces for alternative uses. Advances in IT including new WiFi speeds, data access, portable equipment and systems mean that teaching spaces are less reliant on fixed infrastructure. Once-fundamental demands on the core teaching/learning spaces are now largely irrelevant, and all but the highly technical subjects can be provided for within simply modified rooms.

Inevitably, curriculum changes or fluctuations in demand may require more significant and unforeseen changes to the fabric of a building during its lifetime. The intention with the design proposals at STEAM was to enable any such alterations to be carried out easily, expediently and cost-effectively. In response to this, a number of strategic decisions were made during the early concept stages of the project.

Lightweight partitions within an exposed concrete frame structure allow walls to be removed or moved, if necessary, more easily. The natural fire integrity in the concrete (as opposed to steel) means that plasterboard fire protection is not necessary, and therefore not compromised by any modifications.

Other measures incorporated in the design strategy which look to reduce the complexity and cost implications of future adaptation works include:

- Omission of ceiling finishes in all but a few areas, which also follows the architectural strategy for an industrial aesthetic.
- Development of the fire strategy to limit fire-rated walls and the complexity of their arrangement within the layout.
- 'Breathing building' units serving individual rooms and spaces, greatly simplifying the ventilation, heating and cooling strategy, whilst allowing modifications to be made to small areas of the building without affecting the whole.
- The positioning of the building on the site and the configuration of rooms ensure that the building can be extended in the future if necessary, and additional space created for the curriculum areas understood to be most likely to grow, without affecting other areas of the building.

SUPPORTING WORKSHOPS
The formal and informal teaching and study spaces are located to support the specialist teaching workshops at Bridgend's STEAM Academy

- Robust finishes throughout ensuring that all spaces are suitable to accommodate a much greater range of activities.

Planning facilities that are truly flexible and adaptable can create significant challenges when developing other elements of the design such as the fire and acoustic strategies, although a concrete frame certainly helps in this respect. At the STEAM Academy, providing open and flexible environments with unimpeded visual and physical connections between spaces – particularly around noisy workshops – led to less conventional measures to control noise pollution and ensure fire safety. For example, in some instances rather than relying on a single wall to interrupt noise transfer, instead a series of interventions were employed which included mobile screening at the activity source, static baffling on walls and ceilings to limit reverberation, and sound absorbing surface finishes. In addition, the most acoustically sensitive spaces were situated away from the more resonant activities.

Designing for adaptability requires subtle and considered decision-making through early and informative collaboration between the design and client teams. Solutions which enhance flexibility may impact other client goals or stakeholder requirements for the building and inevitably call for compromise.

Bridgend College understood and embraced from the start of the project that they were creating something new that would lead staff and students away from the teaching and learning culture that they had become accustomed to. They were prepared to explore this alternative approach and ultimately, in doing so they now have a high-quality facility which is ready for future changes, but is also a highly efficient, collaborative, inclusive and inspiring place and has received extremely positive feedback from the occupants of the new building.

Andrew Baker is director at Rio Architects

BUILDING PROJECTS

ROTHERHITHE PRIMARY SCHOOL SOUTHWARK, LONDON

Learning from the past

Feilden Clegg Bradley Studios designed a replacement primary school in south London which builds on the features created over time in its predecessor, and celebrates its mixed community. Jayne Dowle reports

When Feilden Clegg Bradley Studios (FCBStudios) won the competition to replace and expand Rotherhithe Primary School in south London in 2017, the existing school buildings had reached the end of their life. They were cold in winter and overheated in summer, draughty and with failing services – typical of schools built more than 50 years ago.

Now, a confident two-storey contemporary urban school building stands in its place. Built in a light taupe brick referencing the pub next door and the gateposts of nearby Southwark Park, its facades are punctuated by distinguished brick detailing and huge windows.

In a busy urban area, yet virtually invisible from the road, the existing modular-built single-storey school, dating back to 1971, felt insular and cut-off from the vibrant multicultural local community. Pupils and staff at the school speak more than 40 languages. A wonderful positive feature of the new school is an unusually generous playground – the overall site totals 9,390 m² – creating a garden landscape around the buildings and providing a safe, vibrant and stimulating environment for children to learn and play in.

Rotherhithe Primary School is part of the London Borough of Southwark Regeneration Division's ambitious primary school expansion programme. The plan was for the new school to replace the existing two-form entry provision with a three-form entry primary on the same site, creating more space for pupils to attend. Meanwhile, the existing school had to remain open while its replacement was built alongside.

A school has stood on the site for more than 120 years. FCBStudios were determined to both honour the proud history of the school and celebrate the life, energy and positivity that makes it such a forward-thinking educational establishment, and community hub.

FCBStudios partner Helen Roberts says that the opportunity to rebuild Rotherhithe Primary School resonated with FCBStudios' ethos of collaboratively creating "socially-engaged" buildings. "We welcomed the opportunity to work in a dense inner-city area with a strong sense of community and identity."

Another appealing factor for the practice was that the school's curriculum focused around learning from – and in – the natural environment. "Alongside their brief for a contextually responsive, timeless, sustainable building, this chimed with our practice's agenda," says Roberts. "So, entering the competition was of great interest to us."

"Spaces with irregular shapes occur at the point on the site where there is a shift in geometry"

Helen Roberts, Feilden Clegg Bradley Studios

FCBStudios had recently completed a South London secondary school, The Charter School East Dulwich, working with an academy trust and Southwark Council, and was working with council planners on developing school design standards across the Borough.

Rotherhithe Primary School "presented a further opportunity for the practice to build on that relationship and extend its considerable portfolio of carefully crafted educational buildings," says Roberts.

Design, development & form

Galiema Amien-Cloete, executive headteacher of Rotherhithe Primary School, praised the architects' approach to the briefing and design development process, saying they "listened intently" to what she had to say.

From starting the project in October 2017, the FCBStudios team visited the school many times as part of the design process, observing and engaging in extensive dialogue with the council, school leadership, teachers and maintenance personnel.

Key priorities identified during this process included the need for new learning spaces to accommodate modern teaching methods, creating much more effective internal paths to manage the flow of pupils, and making the entrance more welcoming and effective.

"We also documented valued elements such as the generous halls, visual connections with courtyards and landscape," says Roberts. They had been impressed "by the inventiveness of their adaptations to the [existing] building, including improvised break-out spaces carved out of corridors for small group or 1:1 learning support."

The FCBStudios team also embraced the school's commitment to displaying artworks, murals and mosaics which celebrated the school's diverse community, and links to Rotherhithe's maritime and industrial past.

These elements were worked into the designs, helping bring a grounding and familiarity to the new building. In the new school, the spacious entrance foyer acts as a 'garden room' for parents, children, staff and visitors, offering a place to welcome guests, hold community gatherings and mount displays to celebrate the children's work, as well as providing multi-purpose teaching and assembly space.

THE GREAT OUTDOORS
A range of high quality external spaces have been provided to "actively inspire and nurture' children

The design of a two-storey volume around a courtyard allows for views across, out and through the school to give informal connections and relationships between indoor and outdoor spaces, but also views to specific trees and to the sky.

The school and Southwark Council encouraged a flexible approach to designing specific rooms such as the library and IT and music areas, allowing for flexibility and combining of functions so that generous, multi-purpose modern spaces could be designed.

At each juncture in the design process, FCBStudios considered how each space could serve not only its core educational use, but also the many extra-curricular clubs, societies, and social support functions which are a pivotal part of the school's wider responsibilities.

A particular quality of the existing school was its unusually generous playground, creatively programmed to offer a huge range of outdoor environments for learning, exploration and play. As perhaps the only safe play space some pupils have access to, Roberts notes, this area has been brought to life by a significant number of mature trees, offsetting some of the harshness of the surrounding urban environment.

"Re-creating this range and quality of outdoor spaces, to actively inspire and nurture the children, and retaining as many trees as possible, quickly became as important as the design and organisation of the internal spaces," says Roberts. "The new school became conceived as 'school in a garden'." Classroom window openings are generous, and low enough for young children to see through. Window frames and louvres are of red oxide powder-coated aluminium, a marked, yet subtle contrast to the light brick cladding.

Several aspects of the school's design draw inspiration from the historic trade and maritime activities that once occupied the area, including shipbuilding, the timber trade and rope-making. "The language of monolithic brickwork was inspired by the site's history," Roberts explains. "The tiered central courtyard amphitheatre creates a secure, protected space which evokes the masonry dock basins which once harboured Rotherhithe's fleet of cargo ships."

Helping fulfil the school's vision for a calm learning environment as well as picking up references to ancient trading links between the River Thames and

FCBStudios visited the school many times, engaging in extensive dialogue with the council, school leadership, teachers and maintenance personnel

Scandinavia and the Baltic States, carefully-detailed timber is used internally, for the main gathering spaces and staircases. Roberts says that the restrained material palette, with accents of colour, was also selected to reflect this heritage, coupled with the school's aspiration that the space should be a calm, focused learning environment, in contrast to the bustling city outside.

The new steel-framed school's GIA of 3,500 m² is largely determined by the Building Bulletin for Schools, but as Roberts explains, "spaces with irregular shapes occur at the point on the site where there is a shift in geometry." As part of the consultation on the designs with the school leaders, the FCBStudios team used VR headsets to explore digital three-dimensional models of the new building to test and refine appropriate heights and sizes for windows and furniture.

This also facilitated seeing the building from the youngest pupils' perspective: "We set the eye-level to that of a nursery-age child to simulate their viewpoint," says Roberts. "This allowed us to check that the scale of spaces is not overwhelming and to ensure both adults and children benefit from views of the landscape and sky."

Programme & functionality

The biggest difference, compared to the former design, was the decision to site the new school north of the former buildings to provide an environmental buffer against the traffic, pollution and noise of busy Rotherhithe New Road, which had intensified over the years. This also facilitated the phasing of the construction because the existing school had to remain open while the new one was built.

"Working closely with our landscape architect colleagues at Fabrik, we developed a site diagram that pushed the principal 'public' elements, the main entrance, school hall and foyer, to the site boundary," Roberts explains. "Like many urban schools, Rotherhithe Primary does a lot more than provide a setting for education, being used extensively for community activities. Creating a formality to the street elevation and a prominent front door - both of which the former buildings lacked, the new school now directly addresses and welcomes its community reflecting its civic purpose."

This allows for a quieter courtyard to be created within, which the focus placed on an existing mature red sycamore. A ribbon

NOOKS
Quirky and intimate spaces have been included to enable children to have some quieter time

of outdoor spaces on the periphery creates dedicated areas outside each nursery and classroom for Year 1 pupils. This visual connectedness helps in conveying a sense of belonging to the school community and an awareness of others, and there's a further connection to Southwark Park, conceptually bringing its 'borrowed' landscape across Hawkstone Road and into the main playground.

"Achieving a balance of security and openness is a fundamental challenge in urban school design, but one which is critical to embedding a school within its context," says Roberts. She continues: "Key to the successful and sustainable operation of the school are the graded sequence of secure lines. The arrangement of the welcoming entrance area ensured the hall and foyer spaces could be used by the community out of hours, and be safely, quickly, and efficiently set-up and managed by the school."

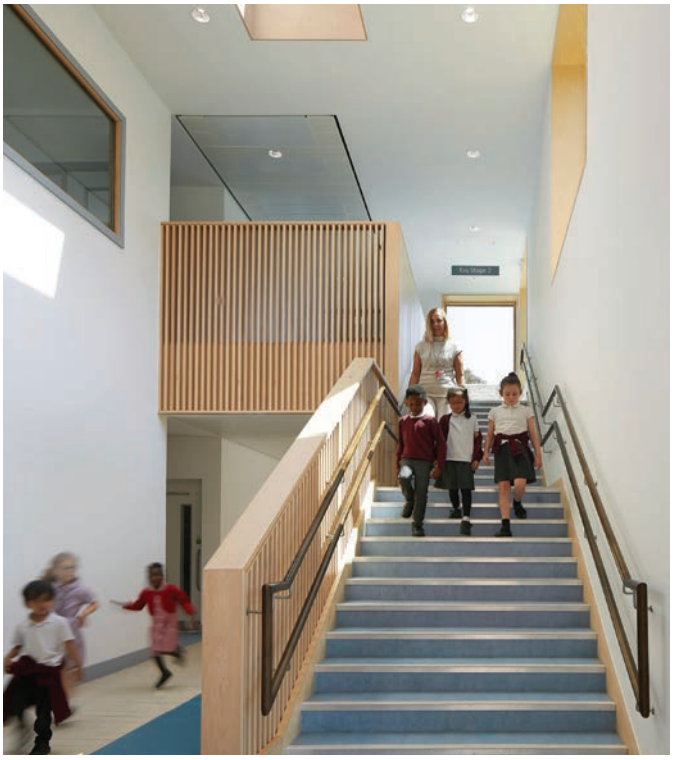
Great consideration was given to 'anthropometrics' in relation to designing according to the size of the children using each set of spaces. This creates a subtle sense of progression around the building as the children mature.

"For the nursery and reception classes it was crucial to create intimate spaces to ease their formative experiences of the education system," Roberts explains. "We employed smaller, more playful spaces, with furniture and finishes of a more domestic character to create an element of familiarity."

Meanwhile, dedicated circulation routes and play spaces define areas for different key stages, and the building is designed so all enjoy views through and across the school as they circulate during the day. As the children move up through the school, they move upstairs where the classrooms have more formality. This gradually prepares them for their eventual departure onwards to secondary school.

Throughout the school, unexpected and often discrete spaces have been carved out for small group learning, intervention and play, including seating areas under the stairs, both internally and externally.

All this was achieved in challenging circumstances. The existing school had to remain operational throughout the construction. FCBStudios created a phased masterplan that enabled the practical delivery of the project, but also considered the quality of the interim conditions to



TIMBER DETAILS
Carefully detailed Scandinavian timber has been used to bring warmth to areas like the main stair

minimise disruption to the school. "This creative approach to site planning ensured the project budget was focussed on permanent works with a tangible ongoing benefit to the community, rather than on temporary works and accommodation," says Roberts.

Sustainability

Sustainability considerations began with FCBStudios' approach to the site, following the 'school within a garden' concept. The green ribbon around the school is imagined as an extension of Southwark Park. The garden creates a habitat corridor, but also offsets the urban heat island effect through use of trees and greenery, reducing rainwater run-off and creating an attractive outlook from surrounding homes.

Ground floor levels of the building were raised to future-proof against projected flood risk. Some smaller hard standing areas passively drain on to larger, soft areas. Permeable surfacing materials such as rubbercrumb (made from scrap tyres), bark mulch, and MUGA (multi-use games area) surfacing also reduce run-off.

The planting palette is drought-resistant to minimise watering requirements to only the harshest droughts and safeguard the landscape's future. A wide variety of drought and heat-resistant tree species now thrive including Cercis, Parrotia, Gleditsia and Koelreuteria, preventing future loss from disease threats, whilst creating playground shade and learning interest for the children.

Following the 'energy hierarchy' within the London Plan, the design focused on limiting energy consumption, and thereby carbon emissions, and employed a fabric-first approach. This was enhanced by passive and active energy efficiency measures, informed by "early-stage energy analysis" to predict energy usage and carbon emissions and ensure that GLA's mandatory requirement of 35% fewer carbon emissions than Building Regulations was met.

Alongside these passive measures, the technological specification for the school includes active elements such as heat recovery through a localised MVHR system with "highly-efficient" controls.

There is also an approximately 70 m² rooftop photovoltaic (PV) array, augmenting the energy provided by a gas-fired absorption heat pump and highly-efficient low NOX condensing gas fired boilers. They serve a heating circuit with a flow of 70°C and 50°C return

temperatures and an EC/DC motor-driven system of variable speed drives on all pumps and fans.

To comply with the current London Plan regulations as well as Building Regulations, further energy-efficient features include high performance (low G-value/high luminous transmission) glazing, and LED lighting throughout, alongside energy-saving heating, cooling, ventilation and lighting controls.

The building has achieved a BREEAM 'Very Good' rating, and has improved on the Building Regulations CO_2 emissions requirements by 36.8%. Annual CO_2 emissions from embodied carbon to practical completion were recorded as 610 $KgCO_2eq/m^2$. Embodied carbon over the lifecycle of the building is calculated at 963 $KgCO_2eq/m^2$ using dynamic thermal modelling software.

Conclusion

Children and staff of the school feel hugely positive about their new building. There is now the space and the facilities to deliver not just a full educational programme, but host events to bring the community together.

Parents and the wider community are involved in school life, attending events such as parent workshops and Christmas fairs, for example. "There's something about the building that attracts them to want to be here," says the school head, Galiema Amien-Cloete. "The school facilitates such activities beautifully, we have the space and it is an attractive space to make that happen."

Roberts says that for her team, working on the school with a committed local council and school leadership team, was "an incredibly enriching experience". What was most important to FCBStudios was the ability to work in collaboration with the client to "appropriately reflect the very specific needs of its community".

The result is a building carefully designed for pupils which also recognises its community's history, enhances its local environment. The spirit of the predecessor buildings lives on, highlighted through a characterful palette of robust materials aligned to confident architectural expression. The project is shortlisted for a RIBA London Award, to be announced in May 2024.

The school's head concludes "I'm most proud of contributing to creating a beacon for this community, something that will stay here for the next 50 years, I hope, if not longer." ■

Key priorities included new learning spaces to accommodate modern teaching methods

Hermetically sealed doors stop pathogens spread

James White of Record UK looks at the important role of cleanrooms and hermetically sealing door systems in healthcare environments – as well as providing useful guidance on their specification

Patient wellbeing is of critical importance within healthcare settings and adherence to stringent hygiene standards is paramount to protect against secondary infection. Hospital doors are no exception, they serve a dual function: they not only regulate access but also minimise and mitigate the transmission of airborne microorganisms and particles.

So, what is the role of a hermetically sealing door system?

Primarily, hermetically sealing doors play an integral role in infection control by helping to maintain a sterile environment both during and post-surgery. The spread of secondary infections can pose a risk to life, so it is essential to minimise the transmission of infection-causing bacteria.

Enhanced energy efficiency can be attained by minimising or halting airflow and reducing the transfer of conditioned air between rooms. This efficiency boost leads to lower energy consumption and decreased associated costs.

It is often the case in the medical field, for instance in operating theatres, that

The spread of secondary infections can pose a risk to life, so it is essential to minimise the transmission of infection causing bacteria

doors support the maintenance of a sterile environment via hermetic closing action and easy clean qualities.

Early-stage specification considerations

So how do manufacturers convey the process when supporting an architect? To answer some of these questions you need to consider all the features, benefits, material choices and other options for hermetically sealing and cleanroom door systems.

A large range of materials are available for the door leaf core and surface finishes, as well as the design of the door frames and sealing system. This ensures that manufacturers can accommodate a wide range of applications.

Every manufacturer worth their salt will have a local specification manager who will gladly guide you through all the options no matter how bespoke your requirements might be.

The available features and materials can be mixed and matched (within reason) to meet the precise needs of the healthcare facility you are working on.

For hermetic sealing, the options include airborne pathogen and particle protection, and airflow interruption. The options for cleanrooms are water resistant with an inorganic core, and antimicrobial hygienic surfaces.

In terms of lined doors, the options include: X-ray protection, radiation protection, laser protection. Lastly there are features for fire and smoke resistance, and sound insulation (to 39 dB).

Mechanical and electrical locks are available, as well as various models of cantilever-type handles

Material selection

From high-performance laminate (HPL) and glass-reinforced plastic (GRP) to anodised aluminium, and AISI304 stainless steel there are many choices in material to suit all applications.

Modular design – building on a basic model

As well as the many combinations there are door leaf formats including single leaf sliding, bi-part sliding, telescopic sliding, and swing doors, all of which can either be manually operated or automated to suit traffic flow and efficiency.

By building on a basic model, many bespoke versions for special applications can be created. For example, protection against electrons, x-rays and gamma rays can be provided with the addition of a full surface lead insert within the door leaf, in the inside of the frame profiles as well as the plinth itself.

A certified smoke control door can be created by adding modified seals and a heat-absorbing core. Adding in a fire-retardant core and additional intumescent seals a fully EI30 door can be delivered.

Besides offering a range of surface finishes and custom door leaf core, the doors can also be fitted with various sizes of windows, integrated blinds (manual or powered), and even laser protection according to specific requirements. Mechanical and electrical locks are available, as well as various models of cantilever-type handles.

In summary, hygienic door systems are an essential part of preventing the spread of airborne pathogens and particles within healthcare settings.

James White is national specification manager for healthcare at Record UK (an ASSA ABLOY Company)

A sound footing for learning

Schools are hubs of learning, yet the effectiveness of teaching depends on an often-overlooked factor. Michael Anderson of Zentia discuss the how the acoustic environment is crucial for optimal education, and the guidance available

The quality of sound within a classroom can significantly impact the learning experience of both students and educators. Inadequate acoustics can lead to a noisy classroom, negatively affecting student's attitudes, behaviours and retention rates.

It can even take a toll on the teacher's health. That is why it is important that government guidelines exist to enhance acoustic building design, including the Building Bulletin 93 (BB93).

The importance of good acoustics

In a classroom where the teacher's voice is drowned out by a range of outside noises such as footsteps, whispers and distant chatter, it becomes challenging for students to focus on lessons. Even when a classroom is quiet, a teacher may have to talk louder to ensure their voices travel to the back of the classroom if there is an imbalance in acoustics. The quality of the sound environment plays a pivotal role in the educational journey, affecting both students and educators alike.

Numerous studies have illuminated the link between classroom acoustics and student engagement. When students struggle to hear teachers due to excessive background noise, their ability to concentrate diminishes, leading to a lack of participation, enthusiasm and an overall negative attitude towards learning. Sadly, not being able to hear and therefore retain information in a classroom can also lead to a decline in academic performance, and failure to grasp fundamental concepts.

The impact also extends beyond engagement. Studies have also shown that students in noisy classrooms are more likely to display disruptive behaviour, and the frustration of not being able to hear clearly can lead to restlessness, bad behaviour, and disciplinary issues.

It is not just students who bear the brunt of inadequate classroom acoustics; teachers can also pay a price. As noise levels increase, teachers may experience heightened stress levels. The constant effort to make oneself heard the most can lead to vocal strain, fatigue, and frustration. These stressors can manifest in physiological responses such as an increased heart rate, which, if chronic, can contribute to more severe health problems like hypertension and heart disease.

Government guidance

Recognising the importance of acoustic design in educational settings, the UK Department of Education has provided invaluable guidance through Building Bulletin 93 (BB93). This comprehensive document outlines the specific acoustic standards and recommendations for the design of new and refurbished school buildings, focusing on how to achieve adequate acoustic performance.

BB93 covers various aspects, including classroom design, building materials, sound insulation, reverberation control, and the

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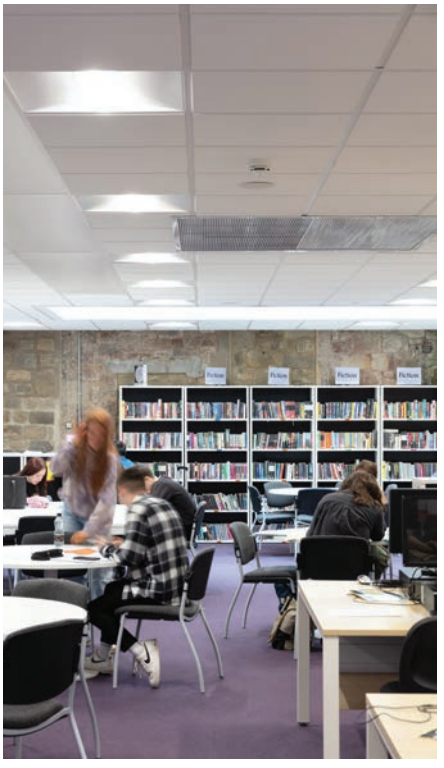


incorporation of assistive listening devices where necessary. Compliance with these standards not only enhances the learning experience by minimising distractions and improving speech intelligibility but also contributes to the overall health and wellbeing of students and staff. Effective implementation of these regulations underscores the UK's commitment to fostering conducive educational spaces that support the academic success and development of future generations.

Crafting sound environments for learning

In the move to fostering optimal learning environments, creating a sound environment is a multifaceted task that requires a holistic approach, along with practical solutions that align with the principles outlined in BB93.

Architects and specifiers play a critical role in designing schoolrooms with superior acoustic qualities. A key component of classroom acoustics is acoustic ceiling systems, which play a pivotal role in controlling sound within a space. Acoustic ceiling tiles are specifically designed with sound-absorbing materials that work by reducing the echo and reverberation in a room. Ceiling tiles that also include sound-attenuating properties help to reduce noise transfer from one space to another by blocking unwanted noise, fostering a quieter and more focused atmosphere for learning. Furthermore, considering ceiling height and layout, along with the proper installation of acoustic tiles, ensures maximum effectiveness in mitigating noise levels and optimising speech clarity. By prioritising these design elements, architects and specifiers can create schoolrooms that promote better concentration, communication, and overall student performance.

In the journey a student makes throughout their educational milestones, the importance of acoustic design often remains an unsung hero. Yet, the quality of sound within a classroom can make or break the learning experience. It shapes students' engagement, behaviour, and retention, while also impacting the well-being of educators.

The significance of good acoustics in schools cannot be overstated. It forms the foundation upon which effective teaching and learning thrive, impacting student engagement, academic performance, and overall well-being. By prioritising acoustics, schools not only create environments conducive to learning but also foster a sense of inclusivity and empowerment for all students. Investing in quality acoustics is not just an investment in education; it is an investment in the future of our society, ensuring that every learner has the opportunity to reach their full potential in an environment where their voices are heard and their minds can flourish.

Michael Anderson is head of A&D – UK & Ireland at Zentia

Include sensory sanctuaries

Catherine Helliker of Danfloor discusses harnessing the power of carpets for creating inclusive education environments suitable for all to use

In the dynamic field of education design, the significance of creating inclusive spaces for neurodivergent individuals cannot be overstated. Among the various design elements that contribute to a harmonious environment, carpets come into their own, offering unique advantages for those users who are on the autistic spectrum, and other neurodivergent conditions.

For individuals on the spectrum, sensory experiences play a pivotal role in their daily lives. Carpets, with their soft and comforting texture, can provide a sensory haven. The tactile feedback provided by carpets can be especially soothing, offering a grounding sensation that promotes relaxation and wellbeing.

Safe spaces

The proprioceptive system, which is situated in our muscles and joints, plays a crucial role in fostering body awareness while detecting and managing force and pressure. In individuals with autism, challenges related to proprioceptive function manifest in various ways, including clumsiness, a propensity to fall, a limited awareness of body positioning in space, unconventional body postures, and difficulty handling small objects.

Both children and adults with autism may exhibit what are termed 'self-stimulating' behaviours; such as jerking their bodies as a way of finding meaning in a constantly changing sensory environment. These behaviours can even extend to actions like head-banging or intentionally throwing oneself on the floor.

Addressing proprioceptive dysfunction and its associated behaviours calls for an environment that supports sensory needs. A flooring solution with a soft finish, such as carpet, becomes crucial in mitigating the risk of physical pain and injuries. By incorporating a sensory-friendly flooring option – like carpet – one can create a safer and more accommodating space for individuals with proprioceptive challenges, promoting their well-being and minimising potential harm.

Visual stability & predictability

Neurodivergent individuals often benefit from visual stability and predictability in their surroundings. Carpets can contribute to this by providing a consistent visual anchor. Opting for solid colours or gentle patterns in carpet design helps create a stable visual environment, reducing potential sensory overload and promoting a sense of security.

Acoustic harmony & noise reduction

When addressing acoustics within educational settings, a collaborative study

By incorporating a sensory-friendly flooring option, like carpet, one can create a safer and more accommodating space

Carpets, with their soft and comforting texture, provide a sensory haven

conducted by Institute of Education and South Bank Universities, involving 2,000 school children aged seven to 10, revealed significant insights. The findings underscore the pivotal role of noise levels in influencing children's academic performance, with potential adverse effects on national test results. Astonishingly, exam outcomes were found to be diminished by up to a third when students were taught in noisy classrooms.

This evidence underscores a crucial correlation between the transmission and perception of sound and its direct impact on academic achievement. It emphasises that background noise, whether originating from within the classroom or external sources, can detrimentally affect the learning process. This impact is particularly pronounced for neurodivergent students who rely on optimal conditions for hearing and comprehension. Therefore, creating an environment conducive to reduced background noise becomes paramount in fostering an atmosphere conducive to learning, especially for those with particular neurodivergent needs.

Carpets serve as natural sound absorbers, minimising echoes and dampening noise levels. This acoustic harmony creates a more tranquil atmosphere, facilitating concentration and reducing stress for neurodivergent individuals who may be sensitive to auditory stimuli.

Adding independence & sensory exploration

Creating spaces that promote independence within a secure environment requires thoughtful and logical design. Establishing a logical order not only supports routine and predictability but also emphasises the importance of incorporating areas for rest to alleviate overstimulation. Consider designing a secluded, partitioned space in a quiet section where noise and echoes are minimised. Introducing soft carpeting to this area transforms it into a calm and relaxing zone, offering individuals an escape from overstimulation before seamlessly transitioning to other spaces.

The use of carpet colours becomes instrumental in facilitating easy recognition of rooms and distinct areas. By strategically incorporating colour-coded carpets, the flow from one space to another becomes effortlessly identifiable, contributing to a cohesive and navigable environment that enhances the overall experience for its occupants.

Carpets also offer a designated space for sensory exploration and self-regulation. The soft surface allows for activities such as stretching, rolling, or simply enjoying the tactile experience, providing individuals on the spectrum with a controlled and safe outlet for sensory expression.

The integration of carpets in education design holds immense potential for neurodivergent users. By understanding and embracing the unique sensory needs of this population, designers can transform spaces into sensory sanctuaries that prioritise comfort, stability, and inclusivity.

Catherine Helliker is marketing manager at Danfloor

Airing the economic case for natural ventilation

Ian Rogers of Gilberts puts the case for how ventilation can be carbon neutral as well as cost saving, for the benefit of schools' bottom line and students' air quality

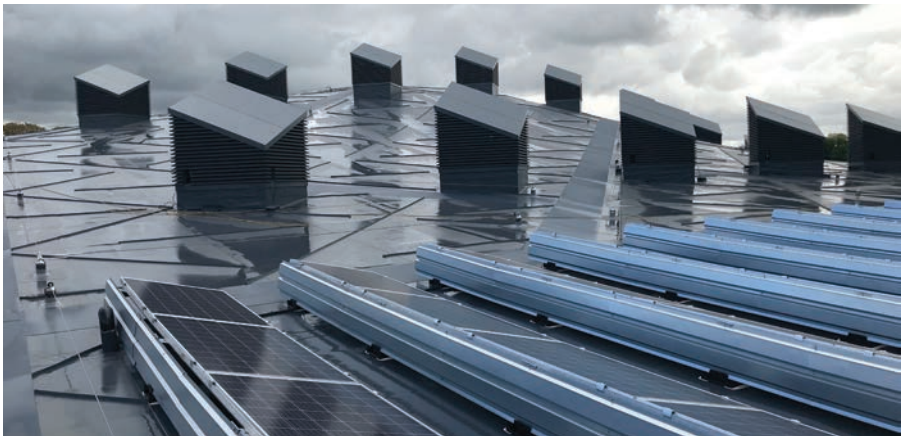
The need for Britain to get back on track in the drive to be 'net zero' is putting major pressure on architects to design projects that are as sustainable as possible.

We're building airtight to address heat and therefore energy wastage, but we still have to allow air in and out of the building, and its occupants to breathe. There is almost as much pressure to deliver good indoor air quality (IAQ) because of its positive impact on health and wellbeing as there is on cutting carbon.

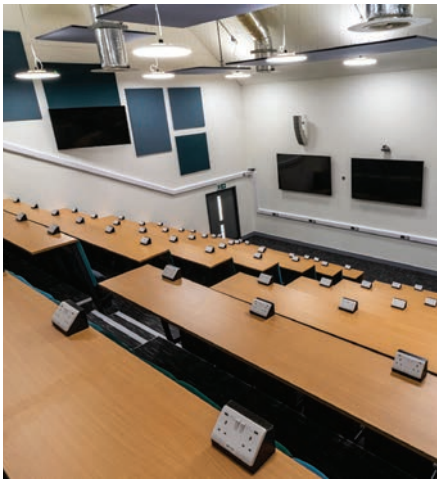
But is that a negative or a positive? We believe it's a positive; encouraging innovative thinking to achieve sustainable zero carbon commercial building services strategies. But we also live in the real world, and know that architects and manufacturers need to work together to develop practical, cost-effective solutions towards that target. One clear trend is that of natural ventilation, and its latest derivations – being more widely used in taller buildings.

It's a logical step, when you think about it. After all, how did we air multi-storey structures such as our iconic Houses of Parliament before electricity? Natural ventilation works by using only our planet's energy (wind), and applying the physics that warm air rises, and air speed increases with height. And the UK's temperate climate, where we rarely experience extremes of temperature, makes it ideally suited to greater use of natural ventilation. In schools, it is the preferred approach within Building Bulletin B101 guidance.

Natural ventilation is good from the



Architects and manufacturers need to work together in order to develop practical, cost-effective solutions



health and wellbeing perspective too. Because you are constantly drawing in fresh air from outside to ventilate the internal space via planned air paths, rather than using reconditioned air, the incidence of sick building syndrome is minimised.

Hence we are seeing a growth in the use of hybrid evolutions such as the inclusion of heat recovery (HV-HR) and a move towards zoning, decentralising the ventilation systems to create a number of stand-alone units without a big, central plant room installation. 'Hybrid' because, although predominantly using natural ventilation, designers, manufacturers and consultants appreciate that there are times when we need to supplement extraction (purge) beyond what the prevailing weather outside is capable of delivering; a boost is needed, which is provided by the incorporation of a low energy fan.

On average, most HV-HR systems can only achieve heat recovery of around 40%. It is possible to achieve more: some systems have been proven to achieve up to 75% heat recovery). If the building includes self-generating power capability (via a PV array for example),the NV-HR system can even become carbon negative.

It is also possible to incorporate an LPHW coil within the NV-HR system. This provides additional heating beyond recirculation of the warmth extracted from the heat recovery process, addressing those colder days. It goes beyond that, eliminating the need for – and therefore the design impact, space allocation, installation costs and embodied carbon of – separate central heating emitters (radiators).

And, if the heat source is a ground source heat pump, with addition of a plate heat exchanger it can also provide temperate cooling for just the cost of running a circulation pump. The combination makes it a highly attractive proposition for schools.

Conscious of the wider constraints architects face in designing the school building to modern criteria, as manufacturers we also take into account air leakage and thermal performance in the solutions. However, for a whole raft of factors, natural ventilation or its variations are not always practical or feasible in the diverse environments we find in schools – the open space of sports halls, the high heat level in ICT suites, the possible pollutants in science labs.

Attention to the design details, such as the choice of air distribution diffusers, can also give a positive contribution towards a low/zero carbon strategy, at very least optimisation of energy efficiency.

Thermal swirl diffusers monitor the incoming air temperature. When it varies beyond a degree or two above or below the preset, the swirls automatically adjust their omni-rotational diffuser vanes, delivering warm air vertically and cooler air horizontally. This process ensures rapid initial warm up and avoidance of uncomfortable draughts. The change happens within seconds, maintaining the equilibrium without any major fluctuation between cool or warm inside. Thus it potentially has a huge impact on energy demand 'spikes' compared to alternatives that can take up to an hour to adjust. No external power source is needed. Pupils are not distracted by feeling too hot nor too cold.

Linear grilles or diffusers adjacent to expanses of glazing can help modulate solar gain and avoid risk of condensation, both of which impact the energy consumption of the internal space.

There are, therefore, numerous options to help move towards greener ventilation strategies in our education estate. Today's architects have the added advantage of computer technology. Software such as BIM and CFD (computational fluid dynamics) mean you have the power to test the theory before a single component is ordered, to make miniscule – or major – adjustments to improve the energy performance and make it as low carbon as possible given the other project constraints.

All we need is a little imagination, to venture beyond the accepted and conventional way of doing things.

Ian Rogers is sales director at Gilberts

Transforming damaged or worn floors

As resilient floors become damaged or heavily worn, poor condition impact's function and safety as well as aesthetics. Replacement may be the first option that springs to mind, yet **Bona** has applied its expertise to create a program for caring for and maintaining resilient flooring. The Bona Resilient Floor System offers a simple and effective solution to bringing a floor surface back to top condition, while also extending the life of the underlying flooring itself. With the unique Bona Recoating treatment, vinyl, PVC, linoleum, and rubber floors can be resurfaced and restored quickly.

01908 525 150 www.bona.com

Off-site solution for new Orkney care home

With accessibility to the site of the new Kirkwall Care Facility on Orkney being almost as challenging as the weather the island's inhabitants endure, a rapid assembly panelised timber frame presented itself as an ideal build solution for the project, with the main contractor's own joinery workshops utilising **West Fraser's** SterlingOSB Zero as the sheathing to the roof, walls and floors. The Contracts Manager for R. Clouston, Andy Smith, comments: "We've used the SterlingOSB product for many years, with the quality and durability of the boards being a main factor."

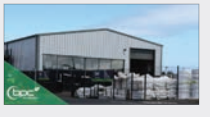
uk.westfraser.com

Transforming St Joseph's Primary School with Playrite's Multi Sports MUGA Surface

St Joseph's Primary School, recently undertook a project to rejuvenate their outdoor play area. Recognising the need for a safe and top-quality play space, the school turned to **Playrite**, a brand name synonymous with multi-sport surfaces, to replace the old existing synthetic turf with a new 15 mm in situ pad and Playrite's versatile Multi Sports Surface (MUGA). The project commenced with the removal of the old surface and pad, making way for a fresh start. The school's decision to install a 15 mm in situ pad combined with Playrite's Multi Sports MUGA Surface proved to be a wise one for several reasons. Playrite's Multi Sports MUGA Surface is renowned for its versatility. It's perfect for various sports and activities, making it an ideal choice for a school play area. Students would be able to enjoy playing a variety of sports from football, hockey, and tennis, on the same surface. One of the key benefits of choosing a Multi Sports MUGA Surface is its ability to withstand heavy use, ensuring its longevity and reducing the need for frequent maintenance. This not only saves the school money but also guarantees a consistent, high-quality playing surface for years to come.

01924 412488 www.playrite.co.uk/muga

Comprehensive range and unrivalled support



BPC Ventilation, one of the largest independent MVHR suppliers in the UK & Ireland, boasts a comprehensive product range and unrivalled support. Working with such leading brands like Zehnder and BSK centralised and decentralised MVHR units with high performance of 500 to 22,000 m³/hr and suitable for all applications including schools and offices. With large, fully stocked warehouses our purchasing power ensures Value engineering to any project. From professional consultations to in-house design and technical support, BPC guarantees seamless project execution from start to finish.

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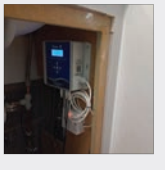
Providing safe water management solution



Thomas Dudley were approached to assist with providing a safe washroom water management system that would allow control of hot and cold taps, shower outlet and WC at the Sutton Manor Romford residential property. The control system has four channels intended primarily to control a single washroom's water outlets for use in specialist healthcare applications. It has a visual display for easy programming with tactile program buttons and a programmable lock out to prevent misuse of all outlets. The control system works with either piezo touch controls or infra-red sensor controls.

0121 530 7000 www.thomasdudley.co.uk/tyde

Why do the world's leading dance schools and universities choose Harlequin floors?

Dance students can spend hours working in a dance studio, it is their place of work and should offer a safe environment fit for purpose. The floor is a dancer's most important work tool and dancers need reassurance they are not going to slip and fall, that lifts can be performed safely and on landing from jumps the response of the floor consistently returns the right amount of energy absorption.

It is a common assumption that a well-designed sports floor will suit the needs of dancers, but this is not the case.

There are some critical factors that distinguish the requirements of dance from those of sports played on a sports floor. Unlike sportsmen who wear increasingly high-tech air-cushioned shoes to give grip and protect against impact injuries, the modest ballet shoe has barely changed in design since the mid-18th century. Made from soft leather, canvas or satin, the ballet shoe is very flexible, has a thin sole and offers little protection for the wearer.

But not all dance floors are the same, only a floor developed specifically for dance will do. There may be a temptation to specify floors for aesthetic or budget reasons, or to specify sports floors in the mistaken belief they will be suitable for dance but there have been some high-profile examples where floors have had to be replaced by a dance company after the building is complete and dancers have their first experience of dancing on the floors.

Harlequin is widely recognised as the world's leading authority on dance floors. As an enlightened manufacturer Harlequin has always worked closely with the dance community to develop floors that dancers want to dance on. There is no doubt, the choice of flooring is critical. For over 40 years Harlequin has been the performance floor of choice for the world's most prestigious dance and performing arts companies, theatres, venues and schools.

Harlequin offer free advice to ensure dance companies, schools and venues install dance floors best suited to their particular use.

All Harlequin sprung and vinyl floor products and ballet barres are easily found and specified through RIBA Source.

Please visit www.harlequinfloors.com for more information, or contact Harlequin.

01892 514 888
education@harlequinfloors.com

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Physical security for healthcare facilities

The government's Health Building Note gives best practice guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities. It states that "security measures should be incorporated into the design of all healthcare buildings to help protect the safety of patients, staff and visitors and the security of the premises".

Charter Global have worked on a wide range of healthcare projects providing door and window security shutters to ensure the physical security needs of doctor's surgeries, hospitals and medical centres are met.

The Blue Bell Health Centre is a £5.7m new build, green project in Merseyside to house four GP practices, a pharmacy, and many other health services using expensive medical equipment.

The building was built around a structural framing system (SFS), with a striking timber clad and render design externally, so an aesthetically sensitive security solution was essential to ensure the intricate design was not compromised.

The Integr8 Non-Structural Built-In Shutter system from Charter Global was specified for the exclusive design of the building, as it is especially suitable for fast track build styles, such as SFS, or timber frame.

Engineered to integrate within the very fabric of an architectural structure, the lintel shutters remove the need for an unsightly head-box, with built-in shutters sitting within the load bearing lintel of an aperture. This causes minimal disruption to the architecture and gives an attractive solution that doesn't detract from the building design.

With the external shutters finished in an appropriate Blue Bell colour, Charter Global provided a complete turnkey security shutter package to this project – even designing and installing the Integr8 security shutter system to the reception desks internally.

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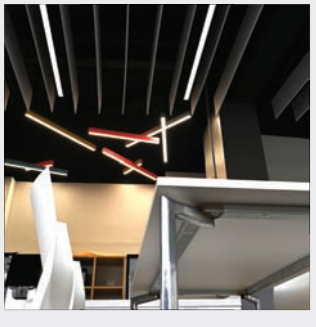
Fusing headline performance with massive running cost savings

A new ventilation with heat recovery option can achieve performance better than anything else on the market, meaning massive savings on energy bills. Mistrale Fusion Deo is the concept of the UK's leading independent commercial air movement specialist, **Gilberts Blackpool,** who was instrumental in pioneering hybrid ventilation with its core Mistrale Fusion unit. The latest evolution achieves up to 65% heat recovery-significantly better than other similar type systems. That outstanding performance means that for a typical school, energy bills could be cut dramatically by recovering heat that would otherwise be wasted, whilst ensuring a indoor air quality compliant, well-ventilated space. Gilberts' dynamic Mistrale Fusion Deo will become, the company believes, the 'go-to' solution for net zero building services design, especially in educational establishments. The ventilation performance is compliant with BB101 and the DFE Output Specification. Further, it avoids overheating in the building, being TM52 comfort compliant. And it is quiet-meeting BB93 guidelines even for special educational needs.

01253 766911 info@gilbertsblackpool.com

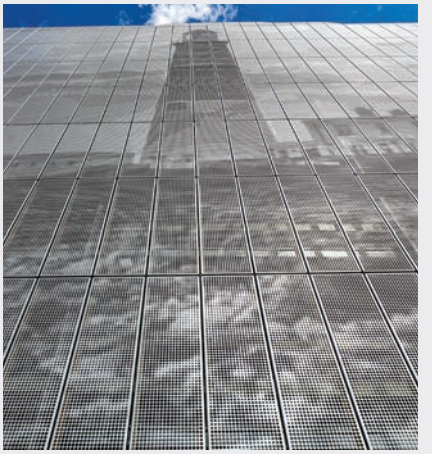
Luceco illuminates new University of Chester student accommodation, Sumner House



The University of Chester have installed **Luceco's** flagship backlit LED solutions in their brand-new student accommodation, Sumner House. The 2023 refurbishment of the former hotel in Chester city centre has brought high quality, modern design to the University's brand new full-board and self-catered student accommodation. Luceco were delighted to design and supply Contour Suspended lighting in varied sizes in mulitcolour and black, creating a stylish and striking lighting solution for the communal seating area at Sumner House. Creatively installed in intervals between sculptural wooden slats, with further colourful lights artistically suspended to create a focal point, Sumner House shows the versatility of Luceco LED lighting solutions and the myriad of creative possibilities for installation. Contour Suspended lighting is a very versatile option, emitting continuous gentle, balanced, and low-glare lighting, making it ideal for both commercial and domestic settings, and perfect for communal areas. Providing downward illumination with up to 107 Llm/cW, Contour Suspended lighting is accompanied with full range of connectors to match any space.

uk_sales@luceco.com www.luceco.com

Meeting the challenge of combining aesthetics and regulations at Dorset County Hospital MSCP



Dorset County Hospital is located just outside Dorchester town centre. This modern hospital provides a full range of district general services, including an accident and emergency department, and links with satellite units in five community hospitals. As the main provider of acute hospital services to a population of around 300,000, ample parking space is required at all times. It was decided that a multi-storey car park (MSCP) should be built to keep pace with demand. Due to new and stricter public regulations combined with the desire for aesthetic freedom, the task presented several challenges.

The design and construction of multi-storey car parks are receiving a lot of attention in the UK. It gives status to develop aesthetic garages and prizes are awarded every year for the best MSCP architecture – RMIG Solutions has contributed to many significant projects within this field.

At the same time, the regulations and legislation for MSCPs are being tightened all the time in the UK. This applies to the guidelines for light and ventilation, and to a large extent to the rules for fire safety.

RMIG Solutions joined the project at an early stage and their experience and expertise within this field was a great advantage, enabling those involved to find the best possible solution.

After a public vote, three images from the beautiful Dorset countryside had been selected for illustration on the facade, and had to be processed so that the perforated pattern creating the images could meet the requirements for open areas for light and ventilation.

The images were successfully processed and the results were remarkable! Through a bit of wizardry, it was possible to change the photos to landscape format and at the same time let in light and air for the users. This made it possible to merge the creative wishes of the architects with what was technically possible. It is always a compromise when it comes to MSCPs, but even though ventilation requirements reduce the contrast in the images, they still stand out and give residents a great impression of the Dorset landscapes.

Finally, numbers could be stamped directly on each element in the production line so there was never any doubt as to where and in what order they should be installed. This made the on-site mounting process much easier.

01925 839610 www.city-emotion.com

TECHNICAL CHARACTERISTICS

Size of the project: 3,400 m²
Material: Novelis ff3® coil-coated aluminium
Pattern: RMIG ImagePerf
Thickness: 3.0 mm
Finishing operation: Bending

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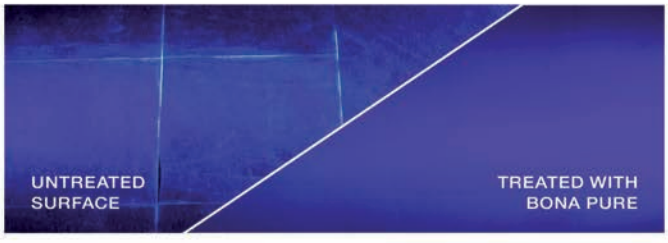
92% LESS CARBON EMISSIONS
41% COST SAVINGS
90% ENERGY SAVINGS



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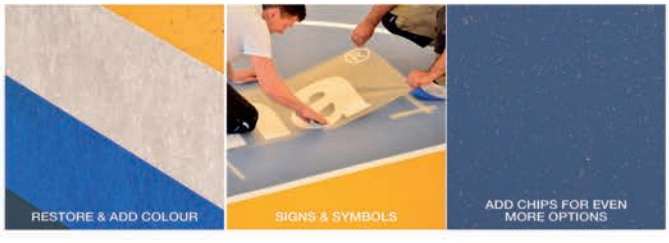
Bona's unique process along with our coatings creates a monolithic surface that seals against microorganisms thus resulting in a fl oor with the highest level of hygiene standards as mandated by The Technical Rules of Biological Agents (TRBA).



DESIGN CUSTOMIZATION

The Bona Resilient Solution offers numerous design options from changing the colour and design of a fl oor, to adding decals, graphics and logos. The possibilities are endless.

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