

DESIGN FOR EDUCATION & STUDENT ACCOMMODATION

11.20

adf
BUILDING
PROJECTS



CPD seminars
available
Book Now
enquiries@kempersystem.co.uk

KEMPEROL® Liquid Roofing & Waterproofing

Long term protection for flat roofs,
buildings and critical structures

Warm roofs, inverted roofs, green roofs,
podium decks, walkways, balconies,
terraces, car parks...

- No hot works
- Sustainable
- Solvent-free
- Odourless

Whatever your
requirements, we have
a certified and proven
solution to meet your
needs.

Contact us to discuss
your next project.



KEMPER SYSTEM
Tel: 01925 445532
enquiries@kempersystem.co.uk
www.kempersystem.co.uk

 **KEMPER
SYSTEM**
Kemperol Liquid Waterproofing

11.20

Design for education & student accommodation Supplement

CONTENTS

4 Industry news

9 COMMENT: Building the net-zero generation

Imran Kassim from AHR Architects says that in creating a new generation of net-zero carbon schools, designers would benefit from a Passivhaus-style rule book

13 COMMENT: Supporting student welfare

How can student accommodation create spaces that help promote wellbeing, combat isolation and prioritise community? Neil Smith from Scape gives some answers

PROJECT

17 Passive learnings

Natural materials have been carefully transplanted by Architype into London's leafy suburbia to create the UK's largest school designed to Passivhaus specifications to date. Sébastien Reed reports

FEATURES

22 A new era for acoustics?

As schools return to some sort of normality, the time is right to examine the upcoming changes to acoustics standards, says Paul Absolon from CMS Danskin Acoustics

24 Permanent protection

With the increased use of outside educational spaces now acutely in focus, Fraser Dixon from Fordingbridge explores how they can be specified with more robust solutions that support social distancing

26 No time to waste

Carole Armstrong from Delabie provides specification advice to help schools increase hygiene levels while reducing water wastage, especially following building closures during the pandemic

28 Flat-out waterproofing success

Victoria Ramwell of Kemper System explains how liquid waterproofing solutions offer the long-term solutions that education buildings need for flat roofs, and the key considerations for specifiers



Managing EditorJames Parker
jparker@netmagmedia.co.uk**Publisher**Anthony Parker
aparker@netmagmedia.co.uk**Editorial Co-ordinator**Shelley Collyer
Tom Boddy**Editorial Assistants**Roseanne Field
Jack Wooler**Editorial Contributor**

Sébastien Reed

Studio Manager

Mikey Poolay

Production AssistantsGeorgia Musson
Kim Musson**Account Managers**

Sheehan Edmonds

Sales ExecutivesNathan Hunt
Steve Smith**PR Executives**Suzanne Easter
Kim Friend**Audience Development**Manager
Jane Spice**Managing Director**

Simon Reed

Advertising & Administrationt 01435 863500
info@netmagmedia.co.uk
www.architectsdatafile.co.uk**Press Releases**

editorial@netmagmedia.co.uk

Subscription circulation enquiries

info@netmagmedia.co.uk

netMAGmedia LtdCointronic House
Station Road, Heathfield
East Sussex, TN21 8DF

Annual subscription costs just £48 for 12 issues, including post and packing. Phone 01435 863500 for details. Individual copies of the publication are available at £5 each inc p & p. All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, including photocopying, recording or stored in any information retrieval system without the express prior written consent of the publisher. Although every effort is made to ensure the accuracy and reliability of material published in Architects Datafile, the publisher can accept no responsibility for the claims or opinions made by contributors, manufacturers or advertisers. Editorial contributors to this journal may have made a payment towards the reproduction costs of material used to illustrate their products. The manufacturer of the paper used within our publication is a Chain-of-Custody certified supplier operating within environmental systems certified to both ISO 14001 and EMAS in order to ensure sustainable production. Printed in England

FROM THE EDITOR



The education sector is clearly one of the areas of the UK which has been at the sharp end of Covid, when it comes to the environments used to keep pupils distanced in the 'new normal' they're confronting.

The Government announced a limited £1bn school rebuilding programme in June, but how schools are best advised to spend this in the Covid context is another challenge for the foreseeable future, as this virus shows little sign of ebbing. Alongside safety, the priority needs to be maintaining some sort of supportive environment for learning, and just 'being' with fellow pupils to ensure school is a healthy place mentally as well as physically.

Typically, children are being asked to form small 'bubbles' yet are trying to social distance from larger year groups. While some flexibility inherent to school sites can be employed to help do this, and barriers and signs can be put up, corridors will be much harder to change. It might be that those schools without the ability to fundamentally alter buildings, or on tight sites, will have to put the onus on reorganising learning. This means staggering timetables, and eventually having a mix of home and school learning to fall back on.

When the need for social distancing between sets of pupils puts pressure on finite areas that have to house a lot of them, like dining halls, schools have often had to use outdoor space. This has (as our contributor from canopy supplier Fordingbridge mentions in this supplement) led to headline-grabbing stories such as kids eating lunch outside in the rain, something which will become increasingly controversial over the colder months.

Any new schools being planned will not be designed as establishments of the past have been. It may be fine on large suburban sites to have double-width corridors, but what about cramped city centre schools? Outdoor colonnades may be the way forward, plus perspex partitions in classrooms, and flexible spaces. Those classrooms will probably have good ventilation, as well as antibac dispensers as standard. Perhaps there could be some holistic benefits beyond 'pupil control' that will ensue; practicality-driven solutions which hard times often produce.

Despite the challenges, we want children to be able to be in school, however all forms of ingenuity, including design – allied of course to teachers' laudable determination – need to be brought to bear to make this as safe as possible.

James Parker
Editor

**ON THE COVER...**

Natural materials have been carefully transplanted by Architype to create the UK's largest school designed to Passivhaus specifications to date, Harris Academy in Sutton, Surrey.

Cover image © Jack Hobhouse/Architype

For the full report on this project, go to page 17.

STUDENT ACCOMMODATION

Brymor Group to renew Southampton University halls of residence



Portsmouth-based construction firm Brymor Group has been awarded the contract to refurbish and reinvent the Montefiore Block Halls of Residence for students at the University of Southampton.

Built in the 1960s, Montefiore Blocks A & B are the oldest accommodation blocks at the University's Wessex Lane Campus. While the buildings remain structurally sound, the facilities they provide have reached the end of their design life, and the continual maintenance issues do not reflect the standards of accommodation that the

university wishes to provide to new first year students when the buildings are re-opened in 2021.

The project, designed by Newcastle-based practice FaulknerBrowns, recently started on site. The design will see the complete refurbishment of the bedrooms, bathrooms, kitchen facilities and communal spaces, with better kitchens added and communal washrooms converted into self-contained pods. Alongside internal works, landscaping, paving, footpaths, signage and lighting will be considered to improve the exterior of the buildings.

The re-opening of these halls in 2021 will not only attract new students to the university, but will also provide it with a boost in income, as currently the buildings are unoccupied.

The director of residential services at the University of Southampton, Trudi Vout, comments: "The University of Southampton is a substantial contributor to the thriving culture within the city, and we are committed to improving the future living experience for our students. We look forward to welcoming them to the newly refurbished halls in 2021."



REFURBISHMENT

£20m refurb for Romford school

Vincent Gorbing Associates have been selected to design a £20m refurbishment project at Royal Liberty School in Romford, Essex.

The architects will be working in a team including contractors Willmott Dixon (appointed under the Southern Construction Framework), plus REL Building Services who will provide M&E solutions, and Arcadis Design & Consultancy as project manager. The

scheme is set to expand the secondary school to provide new facilities such as a food technology room, extra science laboratory, additional classroom space, a larger canteen, and a separate external sports hall.

The project also includes construction of a temporary school facility which will house pupils relocated from the Grade II listed Hare Hall while work is carried out. The building was originally

designed by James Paine in 1768-69 and has functioned as the Royal Liberty School since 1921.

The contract follows the success of Romford's flagship Sapphire Ice Rink and Swimming Pool, which opened in 2018. The development, which featured an ice rink on top of a suite of leisure facilities, was also constructed by Willmott Dixon.

The refurbishment project is set to be completed by autumn 2021.

AWARDS

AHR picks up education design awards

The AHR-designed Barbara Hepworth Building at the University of Huddersfield has been named Project of the Year at the Education Estates awards.

The home of the university's School of Art, Design and Architecture won the accolade in the Colleges and Universities category of the awards, which were held in partnership with the Department for Education. The building was recognised for being a new build project that has made a difference to the educational or research experience.

The Barbara Hepworth Building was completed in 2019, and features a flying cantilever design that made it a local landmark. Built on a sloping, canal-side

location that required considerable pre-construction work, it has already won several awards including Constructing Excellence's Building Project of the Year in 2019.

The university's acting director of estates and facilities, Tim Hosker, commented, "We are proud of what we have created, embodying the town and looking to the future, and establishing Huddersfield as a premier design destination, via the intuitive design of this exemplary facility."

The university also picked up 'Highly Commended' in the Refurbishment of the Year category for a project at Sovereign Design House, a

former 1950s bath house for foundry workers built on land adjacent to the Barbara Hepworth Building. It re-opened as a cafe, exhibition space and gallery early in 2020 following a restoration project that also involved Morgan Sindall and architects AHR.

"It is a fantastic addition to the university's facilities and exhibition spaces," said Nic Clear, dean of the School of Art, Design and Architecture. "This beautifully developed project has preserved a unique building from Huddersfield's industrial past by keeping exterior intact and retaining features from its original function as a factory bath house."

**CHILDREN NEED
STIMULATION
TEACHERS
NEED QUIET
SUPERPHON ART
PROVIDES BOTH**



Sound absorption wall panels. Up to Class A acoustic performance. Almost any image can be accommodated.



All images for illustration purposes only.



gyms

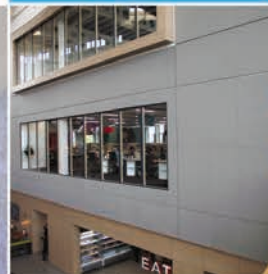
absorption

ceilings

walls

floors

industrial



CMSDANSKIN
ACOUSTICS

T 01925 577711 / 01698 356000
E info@cmsdanskin.co.uk
W www.cmsdanskin.co.uk

CMS Danskin Acoustics is part of the
PTG PERFORMANCE TECHNOLOGY GROUP
www.PerformanceTechnologyGroup.com



Weather protection solutions for schools & academies

Fordingbridge consistently deliver successful solutions, collaborating with architects and specifiers with our provision of canopies, walkways & sustainable pre-fab buildings.

Working with architects through the design and feasibility stages, we ensure your project delivers on both practicality and cost efficiency.

Our specialist in-house team is here to work with you and bring your next project to fruition.

Make us your canopy contractor of choice.

Contact us today to discuss how we can work together

01243 55 44 55
www.fordingbridge.co.uk
info@fordingbridge.co.uk

FORDINGBRIDGE
inspiring design + build



COMMENT

Building the net-zero generation

Imran Kassim from AHR Architects says that in creating a new generation of net-zero carbon schools, designers would benefit from a Passivhaus-style rule book

Delivering effective solutions to address climate change has always proved to be one of the pre-eminent challenges for the entire construction industry. Commissioning bodies, quite rightly, view it as a key measure of success for any project, and now there is a recognition that ambitious carbon reduction measures are required to make a meaningful contribution to the global effort to reduce greenhouse gases.

The sector has specific challenges when it comes to delivering clean economic growth; including low profitability, slow rates of innovation and a heavy reliance on fossil fuels. The drive for higher standards of sustainability comes at a time when the demand for new developments continues strongly – from the ongoing housing shortfall to new hospitals.

In education, a report by The Guardian in December 2019 found that 3,731 schools need immediate building work. This figure rises to 9,872 when factoring in schools that are expected to require work within the next two years. The scale of the

challenge is bigger still, as these numbers exclude the work being led by the Department for Education to extend existing buildings and build new schools to cope with predicted demographic growth.

If the UK's emissions are to be cut, many of these projects will need to be delivered to a net-zero carbon standard, posing a significant challenge to an industry that has traditionally been slow to innovate.

The challenge of delivering net-zero carbon

Progress towards achieving carbon reductions for new school building projects has, in effect, been designed to incrementally improve their energy efficiency. For instance, via improved insulation that reduces U-values; and some good gains have been made here.

However, in order to achieve net-zero, a paradigm shift is required.



Pound Hill Junior School



Highcliffe Primary School

Commissioning bodies and the wider industry cannot simply continue to develop and design in the traditional way and expect dramatically different results. The way forward needs to challenge everything – from the way schools are conceived, built, specified and how they are ultimately used by teachers and pupils.

We need an equivalent to the Passivhaus standard for the education sector.

Of course, school buildings are a vastly different building type to family homes. They have challenges with ventilation and cooling – a situation for which Passivhaus provides no scalable cure. So, while we can't simply translate the fundamentals of the now-lauded residential standard, it is not to say we can't develop a new rulebook specifically for education.

And this rulebook will need to go further than just looking superficially at the use of buildings themselves. In schools, energy consumption based on heating, cooling and lighting the building is only the tip of the iceberg. Everything else – the 'unregulated usage' – from the use of computers, kitchen equipment and even fans in classrooms on hot days, represents a far larger proportion of the energy consumed.

Delivery at pace

It might also be said that a net-zero rulebook for education would be incomplete without also considering modern methods of construction. The Department for Education has become a testbed for MMC in public sector procurement, and it currently presumes an offsite approach across an increasing number of school building frameworks.

The use of modern methods of construction brings with it a number of opportunities to speed up the delivery of schools nationally, and can also play a role in reducing carbon emissions. However, in and of itself it is not a silver bullet for improving sustainability. In fact, it presents new challenges for the sector.

In addition to devising any proposed net-zero carbon solution, architects will need to play an ongoing role in encouraging collaboration where offsite is part of the solution. This will be crucial in ensuring that the industry continues to modernise, creates

a more skilled workforce, and becomes aligned with the strategic design principles brought in to reduce energy consumption, without losing the programme and risk reduction benefits that MMC so readily addresses.

Championing reuse

A further key role for the architecture industry will be demonstrating the value of refurbishment of existing spaces.

Far more carbon is emitted in demolition and new build than for the refurbishment of a building. It's therefore imperative that construction projects in the education sector explore the opportunities for refurbishment – looking at the carbon impact of any project alongside cost and programme to assess the investment value.

While the costs of demolition versus refurbishment can vary significantly, refurbishment projects can create buildings that are as high quality as new-build schemes. As lead consultants, architects have a role in educating clients to ensure they understand that refurbished buildings can be of architectural merit and use design in a way that extends building lifespans and adapts the built environment to modern uses, all while minimising carbon emissions.

The future of schools

While the work already done in the sector to reduce emissions should be celebrated, meeting a much greater challenge of making schools net-zero will require sustained focus and effort.

To make net-zero carbon the rule rather than the exception, all parties involved in commissioning and designing education estates should come together to develop a series of key recommendations for the future of school buildings. In doing so the industry can ensure that it really starts to play its part in addressing one of the biggest questions facing the current generation, and create a positive lasting legacy in our education built environment.

Imran Kassim is regional director at AHR Architects

Benchmark street furniture



Design
Manufacture
Supply

info@benchmark-ltd.co.uk www.benchmark-ltd.co.uk 01243 545 926



we cover it!

Clovis Canopies design, manufacture and install a wide range of shelter structures including entrance canopies, outdoor play-shade structures covered dining areas and covered walkway canopies.






CONTACT US FOR A FREE QUOTATION OR SITE VISIT

Call **01622 873907** email sales@clovis-canopies.co.uk or visit our website www.clovis-canopies.co.uk

Branbridges Road, East Peckham, TONBRIDGE Kent TN12 5HH



By Appointment to
Her Majesty The Queen
Manufacturer and Supplier
of Secondary Glazing
Selectaglaze Ltd.
St Albans

selectaglaze™

Secondary Glazing

Seamless integration giving you the added benefit of:

WARMER

QUIETER

SAFER



Imperial College London - Dyson School of Design Engineering

- Reversible adaptation for Listed and heritage education estates
- Excellent heat retention creating a more comfortable learning environment
- The most effective method of noise insulation, enhancing concentration levels
- Security units to protect areas with sensitive equipment and labs
- Helps lower energy bills and reduces carbon footprints
- Discreet and bespoke treatments

T: 01727 837271

E: enquiries@selectaglaze.co.uk
www.selectaglaze.co.uk



@selectaglaze

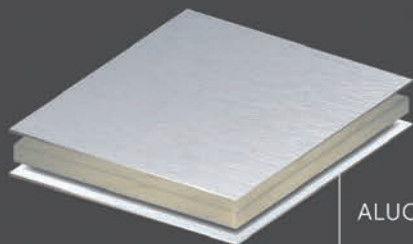
ALUCOBOND® PLUS | A2

ALUCOBOND® is the original aluminium composites material



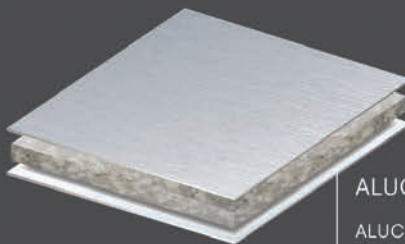
- ALUCOBOND® PLUS and A2 have been in continuous production for over twenty years.
- 3A Composites, the manufacturer of ALUCOBOND®, has only promoted and sold fire retardant material since 2013, pre-dating regulation changes.
- ALUCOBOND® PLUS and A2 were tested to BS8414 large scale tests pre June 2017.
- 3A Composites is member of the MCRMA and furthermore collaborating with National & European Authorities to enhance regulations and standards.
- 3A Composites has strategic partners enabling comprehensive training on design, fabrication and installation.

Centre Square Building 2, Middlesbrough
ALUCOBOND® A2 spectra Amazon
Seymour Architecture | Topside Modular Engineering
CA Group | © Ashall Projects (MB) Ltd



ALUCOBOND® PLUS

ALUCOBOND® PLUS is a composite panel consisting of two aluminium cover sheets and a fire-retardant mineral-filled core (70%).



ALUCOBOND® A2

ALUCOBOND® A2 is a composite panel consisting of two aluminium cover sheets and a core with a high content of non-combustible minerals (>90%).

For rear-ventilated façades, we recommend ALUCOBOND® PLUS (EN classes B-s1, d0) or ALUCOBOND® A2 (EN classes A2-s1, d0) in combination with non-combustible mineral insulation. This combination shows no flame propagation or critical temperature rise, and even exceeds the requirements of BR135.



Sales Manager UK / IE
Paul Herbert
+44 75 84 68 02 62
paul.herbert@3AComposites.com

Business Development Manager UK / IE
Richard Clough
+44 77 60 88 43 69
richard.clough@3AComposites.com

www.alucobond.com

COMMENT

Supporting student welfare

How can student accommodation create spaces that help promote wellbeing, combat isolation and prioritise community? Neil Smith from Scape gives some answers



A student's experience can be substantially impacted by their choice in accommodation while at university. Whether students decide to stay close to campus, or prefer to be located further afield, a sense of belonging and community is vital to help them thrive in their studies during these all-important years. This is even more true in the current climate of the pandemic.

The 'Gen Z' student population expect their accommodation spaces to work as hard for them as they are working towards their own future while at university. Internet reviews, social media influences and the authenticity of user generated content has revolutionised the understanding of what their accommodation should look and feel like. Today, students expect accommodation not only to provide a living space that looks good aesthetically, but

also one that offers a sense of community, opportunities and a robust support system.

We believe that building a sense of community and nurturing student wellbeing starts with design. Spaces need to function as facilitators for studying alongside social activity areas; incorporating important communal areas such as shared kitchens encourages residents to build a community, and lifelong connections. At Scape, our communal spaces follow a design philosophy that, above all else, offers comfort and practicality. For example, kitchens are a major hub of activity, with students from varying backgrounds sharing recipes, food and experiences.

In communal study areas, desk spaces can be designed to reduce surrounding noise, providing students with an area they can escape

With there being more pressure on students than ever before, the role their accommodation plays has never been more important

to, and work undisturbed when studying for an important exam. Providing spaces in our facilities that students can go to study or to socialise helps residents feel part of a vibrant, global community.

Scape work with designer Ab Rogers to develop student accommodation that puts comfort and wellness at the forefront. We believe that the maximisation of space is vital to student wellbeing and by incorporating a range of smartly hidden storage areas within rooms we have given students much more space. For instance, our mattresses can be lifted easily to provide a large space for storage. In the kitchen, the fridge is tucked neatly behind a cupboard door, and in the bathrooms the mirrors open to reveal a shelving system. Window seats in rooms add extra space, extending proud of the walls to provide an additional area for relaxation or shelving. Giving students as much storage space as possible allows them to organise and 'curate' their space.

Each aspect of our student rooms has been designed with student wellbeing in mind. Sleep deprivation greatly increases stress and with this in mind, all of our rooms offer double beds plus their own temperature controls, meaning students can control their environment and get the best possible sleep all year round. Equally, the colour scheme is key when it comes to affecting mood. The secret to creating a stress-reducing and relaxing space is a soft-toned palette, and a clean, bright aesthetic helps to make a room feel serene and safe.



Our design partnership with Ab Rogers was seen in the development of our most recently opened property, which is in Dublin. It provides a design-led space for residents, accompanied by a wide range of services and communal elements, including a cinema, gym and kitchen.

The key to designing and building spaces fit for students is to consider all the above factors. With there being more pressure on students than ever before, the role their accommodation plays has never been more important. Through meticulously and expertly planning spaces with the student in mind however, a space can foster productivity while building community and supporting wellbeing. We hope and aim that all our residents feel nurtured and inspired during their time at university.

Neil Smith is managing director at Scape UK/IE



Multi-mode hybrid ventilation system for schools

passivent

Passivent's Hybrid Plus2 Aircool® is a multi-mode ventilation system, boasting a contemporary, streamlined design. Suited to where a single-sided ventilation strategy is required, the system has been developed to meet the requirements of Building Bulletin 101, "Guidelines on ventilation, thermal comfort and indoor air quality in schools", BB93 "Acoustic design of schools – performance standards" and the Facilities Output Specification for Priority Schools Programme Phase 2.

The ventilator consists of three main components: the external weather louvre, the through-wall sleeve and the inner mixing unit, making it easy to specify and order, whilst ensuring a complete integrated system is supplied. It incorporates three modes of operation - mixing, cooling and passive - to suit varying internal CO₂ and room temperature levels. Utilising controllable insulated dampers from Passivent's Aircool range designed for use in external facades, the



system is controlled by the Passivent iC8000 controller allowing for up to forty individual zones to be managed. Incorporating a variable speed fan, the unit is energy efficient and quiet yet able to deliver up to 150l/s of ventilation. Weather resistance and security are provided by the external weather louvre, even when the internal insulated louvre is open. One Hybrid Plus2 Aircool® can

effectively ventilate a room containing up to 16 occupants; adding a second unit will accommodate up to 32 people per room.

Made from robust lightweight ABS, the unit can be mounted below the ceiling or within the ceiling void with the inclusion of additional grilles and ducting. Its modular design makes it simple and fast to install. With no filters to replace, the system requires minimal maintenance; periodic cleaning to remove any dust is all that is required.

The Hybrid Plus2 Aircool® can be used across a range of markets including education and commercial offices with higher internal heat gains. It can also be used for night cooling to reduce the risk of overheating.

Passivent offers a comprehensive technical design service including assistance with product selection and system design.

For more information, please email projects@passivent.com

01732 850 770 www.passivent.com

The All New Hybrid Plus2 Aircool® is Attracting Attention

Fast and simple installation · Contemporary design · Versatile mounting options



passivent

A division of Building Product Design Ltd

Hybrid ventilation does not have to come in boxes.

To find out more
call **01732 850770** or
email sales@passivent.com quoting Hybrid Plus2
or visit www.passivent.com/hybridplus2

Make Your Doors Contactless

automatic door systems

Keep your education facilities safe and limit the spread of germs being passed on via hands by automating new or existing swing doors, or installing sliding doors with contactless sensors and switches.



sliding • swing • revolving • curved • folding • telescopic
hygienic • breach control • bomb blast • security interlocking



call: 01922 669341 • email: info@recorduk.co.uk • www.recorduk.co.uk

CONTROLLED ACCESS FOR EDUCATION

Next-generation education locking solutions for world-class learning environments.

-  **Control** – Who can access what, where and when.
-  **Cost effective** – Say goodbye to mechanical keys and key replacement expense.
-  **Audit trail** – Door visited, time, access granted or rejected.
-  **Stand-alone electronic locks** – Long battery life.
-  **Smart campus** – Integrate all your students' and staff's security needs in a single card.
-  **Lockdown** – Essential function in emergency situations.

SALTO
inspired access



www.saltosystems.co.uk



Images © Jack Hobhouse/Architype

**BUILDING
PROJECTS**

**HARRIS ACADEMY
SUTTON**

Passive learnings

Natural materials have been carefully transplanted by Architype into London's leafy suburbia to create the UK's largest school designed to Passivhaus specifications to date. Sébastien Reed reports

With state secondary schools in the London Borough of Sutton (LBS) experiencing an upturn in subscriptions through recent years, the council were pushed to find a way to accommodate the growing local student population. LBS' need neatly coincided with plans for Sutton to host the London Cancer Hub (LHC), a masterplan with the goal of

creating "a global centre for cancer innovation." The centre which, when complete, will offer more than 280,000 m² of integrated life-science buildings, is envisioned not only to attract a swathe of skilled scientists and leading clinicians; careful thought was also given to those already inhabiting its immediate surroundings.



As the first ‘One Planet Living’ council – a framework adopted by Sutton in 2009 to encourage sustainable development – it was important that the building had exceptional green performance. Architype was appointed in 2016, having been selected from Sutton’s consultant framework, after successfully completing designs on the nearby Hackbridge Primary School, a ‘Passivhaus Plus’ zero carbon school. LBS made Passivhaus compliance a key requirement for Harris Academy.

“The vision is that the school becomes an integrated component of the LCH campus,” explains Christian Dimbleby, associate at the firm and lead architect on the project. Significant potential was seen in “a science academy that develops local talent and maximises its close association with the wider campus,” says the architect. Harris Academy Sutton not only provides the first building blocks of the lives of many young Londoners set to walk its corridors, but also of the LCH masterplan.

Form & function

In creating a substantial new building in a quiet suburban borough of London, the architects sought to ensure that the surrounding properties were considered throughout the project. Initial designs positioned the mass of the building along the south-west perimeter of the site in a single curved block reaching five storeys in

parts, however after public consultation, the architects were forced to rethink the school’s plan.

The resulting design is made up of one central four-storey block with a series of alternating wings which step down to two and three storeys, ameliorating the passage of light to neighbouring properties. The site also had several important large specimen trees that the rethought design accommodates more successfully.

As well as the reduction in the scale of various elevations, the building also maximises usable outdoor space for terraced seating and social courtyards. Care was taken in minimising the surface area of the building to achieve high levels of solar gain, while the north-south orientated design facilitates Passivhaus by further optimising gains in winter to minimise heating demand.

In section, the building adapts to the 6 metre north-to-south slope of the site – noted by Christian Dimbleby as one of the key challenges of the plot – with its ground floor built into the relief. “The layout is cruciform,” explains Dimbleby, “with a central spine encouraging the flow of users around the building; the students navigating primarily east-west from the school entrance into the secure playgrounds.” Communal access runs from north to south with the main entrance at the north for visitors, and the south side looking out to



The 10,625 m² school is heated by just one domestic-scale boiler feeding small radiators

the London Cancer Hub. Community access to facilities was anticipated around the sports and hall spaces, located on the lower and upper ground levels at the south end of the site.

Materials matter

In line with Passivhaus standards, the architects carefully considered their choice of materials, Dimbleby explains: “We employed a natural colour and material palette, including copper and timber, so the large form would sit sensitively in its suburban environment.”

According to Andrew Thornhill, of landscape architects Churchman Thornhill Finch, the key to balancing the building with its surroundings “was ensuring the mass of the school was central to the site and that the storey height dropped to the edges to meet the suburban context.” Brick is used on the ground floor plinth, adjoining external retaining and blade walls, speaking to the predominantly brick houses surrounding the site. Thornhill continues: “Planted terraces to the north further

softened the elevation where overlooking was most direct.”

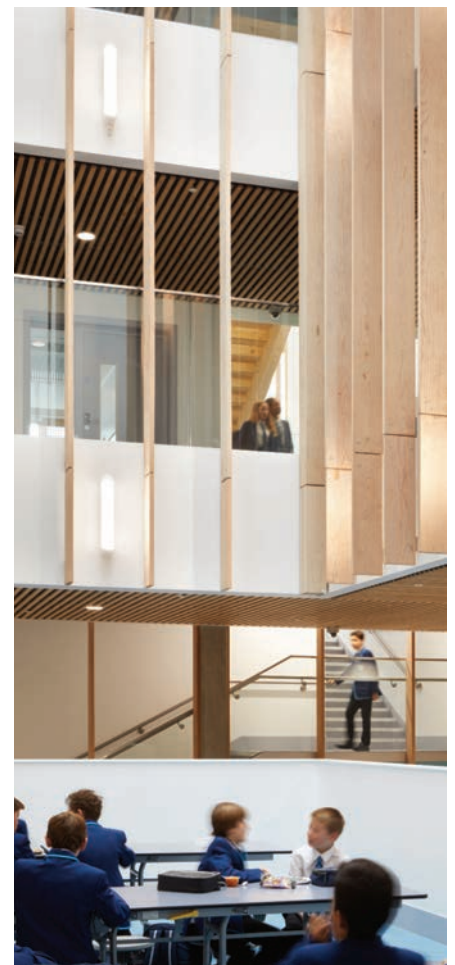
Materials also play an active role in communicating the function of the scheme and its parts, with copper signalling the community access spaces such as the sports hall and assembly hall, but also nodding to the building’s scientific roots.

Timber cladding was used for its low carbon properties, in addition to the aesthetic that it would provide; lighting up the large mass, without imposing on students or neighbouring properties. “We used robust triple glazed timber-aluminium composite windows and included timber extensively internally, bringing the outside inside,” says Dimbleby.

He continues: “We used a concrete ground floor with Cross Laminated Timber (CLT) panels above, and a flexible glulam frame.” With circular economy principles in mind, the structure was designed so that, at the end of the school’s minimum 60-year life span, the frame can be dismantled and reused. CLT floor and roof slabs support the upper levels and roof while endowing the classrooms with greater flexibility; none of the internal walls are supporting, so classrooms can be expanded and contracted as needed.

A labour of learning

Architype worked with educational experts Lloyd Wilson Partnership to develop





Sensors monitor CO₂ throughout the building and teachers are notified when to open windows by means of a light

designs for the site, integrating pedagogical theory to inform the school layout as well as meeting the Department for Education's requirements pertaining to space and function. Passivhaus standards also provide the foundation for internal environments optimised for educating the school's 1,275 pupils, as Dimbleby explains: "This means plenty of natural light, low CO₂ levels, and stable internal conditions with no draughts or hot spots." Sensors monitor CO₂ throughout the building and teachers are notified when to open windows by means of a light (going against the received wisdom that you are unable to open windows in Passivhaus buildings).

The architects designed large class spaces, including a double art room and double laboratory; the school expects the laboratories to be used in community demonstrations and extra-curricular activities, such as British Science Week. Considering Harris Academy's strong community ethos, the areas most frequently used by the public such as the all-weather sports hall and the drama studio all offer secure public access.

For the interiors more generally, the architects made sure to retain views out of the end of most corridors. This was done to provide users with a visual connection to the suburban homes and state-of-the-art London Cancer Hub development outside, helping embed orientation for users. Ceiling heights exceed 3.5 metres throughout the school, with the ground floors benefitting from up to 3.9 metres, providing a spaciousness conducive to thinking and learning.

"Natural, high-quality materials command respect from students with minimal signs to disrupt the flow and peace of the space," says Dimbleby. They also contribute to the building's high internal air quality.

The 715 m² sports hall is internally finished with exposed timber. Staircases throughout the academy are open, modern and colour coded for subtle wayfinding. Linoleum and rubber flooring has been used in the shared spaces, and ceilings in the corridors are clad with timber battens.





Externally, spaces were configured by the landscape architects to offer usable study spaces away from the main active sports area to the east of the site.

Consciously mimicking aspects of a typical university campus, circulation around the building is “celebrated,” says the architect, with “key nodes offering space for students and staff to dwell, exchange ideas and discuss studies.” The design also allows users to occupy the roof terraces on the northern wings with all structural capacity built into the school for future use. “The design exemplifies civic pride, with the study and circulation demonstrated in the school’s grounds continued inside,” asserts Dimbleby.

Green goals

“We maintained some of the BREEAM principles of the design, including water savings, but Passivhaus allowed us to guarantee energy savings,” remarks Dimbleby. The 10,625 m² school is heated by just one modestly-sized boiler feeding the small radiators in the classrooms. The architect received

word from Harris Academy’s headteacher that, during the school’s first active term, from September to December 2019, the boiler was active for just one hour.

The outdoor areas were configured to minimise off-site material disposal and to make use of the existing car parking areas where possible. “We also wanted to promote biodiversity across the site,” says Thornhill. Photovoltaics were fitted on the roof, bat and bird boxes installed in surrounding trees, and a sustainable urban drainage system was used. Green walls and rain gardens are other additions that boost the building’s green appeal.

While incorporating these eco-friendly features into the design does come at an elevated cost, with the building exceeding £3,750 per square metre, energy spend is estimated to be only 10-20 per cent of that of a regular school. From running costs through materials to massing, the school leaves only a light footprint. With this added to the pupils’ wellbeing as key drivers, it is clear that Architype has designed a school for the future. ■

PROJECT FACTFILE

Lead architects: Architype

Client: Sutton London Borough Council

Contractor: Willmott Dixon

Landscape architect: Churchman Thornhill Finch

Education consultants: Lloyd Wilson Partnership

Services engineer: BDP

Structural engineer: Price & Myers

Landscape architect: Churchman Thornhill Finch

Completion: July 2019

Cost: £40m

A new era for acoustics?

As schools return to some sort of normality, the time is right to examine the upcoming changes to acoustics standards, says Paul Absolon from CMS Danskin Acoustics

For the uninitiated, BB93 performance standards are a government initiative created to ensure school environments meet sound insulation targets. They were originally conceived to make sure the educational needs of pupils were put at the forefront of the school design process. This included installing soundproof walls in classrooms, and making sure sports halls were properly sound insulated, and classrooms were purposefully angled so as not to be road-facing.

One of the most important measures was the application of sound absorption materials, in the form of wall panels and ceiling rafts or baffles, designed to reduce reverberation (or echo) and thus improve

the intelligibility of a teacher's speech. By decreasing noise distractions, BB93 has helped create school environments that are conducive to learning and have a huge impact on the quality of teaching that takes place in the average classroom. The guidelines also have an increased awareness for the specialist acoustic requirements of learners with special needs. For example, targets are set out for creating autism-friendly learning environments which combat excess noise stimulation and encourage pupils to remain calm and focused.

BB93 is now nearing its second decade since its conception in the early 2000s. As part of the 'Building Schools for the Future' scheme, a whopping £45bn was pumped into tearing down and rebuilding prefabricated schools across the country. With this massive renovation scheme came the need for tighter school regulations to suit the learning needs of the '21st century pupil.' Accompanying this wave of rebuilding, BB93 was created in 2003, putting sound insulation at the centre of new school design. Prior to BB93's existence, a barking dog in the playground would be enough to derail a lesson, and only schools who could afford it had the luxury of sound insulation. BB93 was created to level the playing field, providing a distraction-free environment for all. So far so good, so why the need for an overhaul?

Even when made with the best intentions, government initiatives should grow and change with our increased need and technology, and BB93 is no exception. In 2003, BB93 only gave guidelines for newbuild schools, leaving older schools, and their pupils, trailing behind. The revamp in 2014, while addressing most concerns, did not address this either. The newest iteration has been updated to include soundproofing targets that all schools should be meeting, with guidance on how older schools can adapt their current buildings to retrofit sound insulation technology. Official guidelines have been quick to emphasise that this does



The newest iteration has been updated to include soundproofing targets that all schools should be meeting

not mean newer schools regulations will be relaxed, rather that regulations will increase for all.

As well as a general tightening of regulations across the board, there are a couple of major changes to be aware of:

- Noise tolerance categories have been reduced, and new indoor ambient noise levels have been introduced, depending on the type of ventilation the school is equipped with.
- Controls on reverberation time allowed in classrooms are to be more stringently applied, particularly in schools with pupils with hearing and communication needs. These will apply across a frequency range 125 Hz to 4 kHz.
- Measures to control rain noise are also being implemented to reduce distractions, meaning noise from heavy rain should

not exceed 25 dB above indoor ambient noise level limit.

- There is a greater emphasis on noise reduction between classrooms, with more schools being advised to install higher performance corridors, wall, and door insulation, as well as floor insulation to reduce impact noise from footfall and moving furniture above.
- Perhaps the most important introduction is that alternative performance standards are now not allowed to be lower than the performance standards for refurbishment. This should, in theory, bring all schools up to a higher level of sound insulation.

As the threat of cuts to educational budgets looms ever present over the construction industry, perhaps these new regulations focusing on renovation rather than rebuilding will bring in a new era of sound insulation innovation. And with school building currently put on hold due to a certain global pandemic, the new batch of BB93 regulations couldn't have come at a better time.

Paul Absolon is technical director at CMS Danskin Acoustics

Buy British  Buy Quality

Est. 1832

Jeckells

Shade Sails



We design and manufacture Shade and Weatherproof Sails in commercial and domestic environments. Our forte is engineering solutions that not only look good but will also stand the test of time in unpredictable outdoor environments.

All our Shade Sails are individually designed with colour, shape and size to suit your particular requirements. Architecturally stunning. We use either Stainless Steel or Timber posts depending upon the environment. Our Shade Sails are easily fitted and removed. A full design and installation service is available.

Jeckells 
THE SAILMAKERS

For more details call 01603 782223 or email shadesails@jeckells.co.uk

adf

SUBSCRIBE TO THE FREE DIGITAL ISSUE



ARCHITECTSDATAFILE.CO.UK/ADF-DIGI

Permanent protection

With the increased use of outside educational spaces now acutely in focus, Fraser Dixon from Fordingbridge explores how they can be specified with more robust solutions that support social distancing



Following the full reopening of schools and colleges following the Coronavirus pandemic, specifying the correct solutions for outside environments has never been more important. With dining halls often over-capacity, teachers have historically looked to playgrounds to service this need. However now the focus is on educators to respond to social distancing and handle the ‘classroom bubble;’ how pupils can be successfully segregated throughout the school day is key.

With educators naturally striving to provide more time outside for their students in any case, the situation has been compounded by the pandemic which, in some under-prepared schools, has led to news reports of pupils forced to eat lunch in the rain. Elsewhere, headteachers and facility managers have rushed to panic buy or hire marquees over the summer break, allowing for additional covered dining space on their students’ return. But is this solution sustainable?

While globally we are looking for short-term solutions to satisfy immediate challenges presented by Covid-19, in this situation a more permanent canopy structure will provide the optimal value (and a more pleasing aesthetic) for a school environment. Far removed from the off-the-shelf appearance of a ‘white tent,’ a bespoke structural canopy adds not only the required covered space, but allows schools and colleges an additional area to build into their lesson plans and day-to-day activities. Stability and reliability is provided by a canopy structurally engineered for the site, such that wind and snow loadings will not present safety issues as the winter sets in.

Similarly, the benefits of a permanent structure should not be overlooked for the summer months. Valuable areas of shade can be provided over playgrounds, particularly for protecting against UV levels for younger pupils in an EYFS or KS1 setting. When correctly specified, they can

also dramatically lower solar gain in adjacent buildings, without reducing light levels for classrooms.

Materials

While glass provides a pleasant roofing aesthetic, once treated for UV reduction and size, it often becomes cost-prohibitive for many projects. Polycarbonate, specified correctly, offers a cost-effective alternative. For schools and colleges, a minimum of a 16 mm triple-wall sheet should be used. This not only enables the relevant non-fragility certification but also ensures the canopy will stand the test of time and not degrade through year-round exposure to the elements.

Fabric remains a popular option. Tensile canopies offer bespoke sweeping styles to follow the lines of a building, adding to the environment visually as well as practically. The issue with a tailor-made tensile canopy, other than the cost, is the light transmission. Tensile fabric is a dense material designed for strength under tension, but its density does affect light transmission underneath. With a modestly sized tensile canopy, light transmission through the fabric can be reduced by as much as 70 per cent. While this has obvious benefits from a UV aspect, it can lead to a dim area when used to cover central courtyards or be installed adjacent to classes.

Fortunately, there are a small number of products on the market designed to provide cost-effective canopy roofing and block UV, while not reducing light levels drastically. These fabrics, some offering as much natural light transmission as 60 per cent, provide a reliable alternative for specifiers looking to deliver an aesthetically beneficial, yet practical canopy within budget.

The secondary feature of a permanent canopy, that allows designers to create a structure which does more than simply

Structural glulam timber and CLT offer lines and curves to create truly inspiring outside spaces

“keep pupils dry,” is the framework. Steel, aluminium and timber form the ‘holy trinity’ of materials, bespoke engineers tending to opt for steel or timber and the more ‘ready-made’ resellers generally favouring aluminium, with different resulting levels of longevity, strength and finish. Lightweight and easy to handle, aluminium provides a canopy option for the architect which requires minimal investigation. In fact, with the plethora of aluminium canopy resellers operating through the UK, the onus is passed to a cost consultant or quantity surveyor to simply choose the lowest price.

The sheer strength of steel, and its ease of handling through the fabrication process, make it the medium of choice for the bespoke canopy contractor. Here, sweeping lines can be formed to follow the flow of a building, arching corners enhancing the

overall building, all without negating the structural integrity of the finished canopy. With the same colour palette available as aluminium for the finish, the architect has the same option for visuals, but with the added benefit of design.

In my opinion, when applied correctly, nothing can detract from the warmth of a timber canopy. Offering a contemporary contrast with the most modern of builds, structural glulam timber and CLT offer lines and curves to create truly inspiring outside spaces. Specified correctly, these also tick a big box for planners, educators and authorities alike, as a sustainably sourced timber canopy ‘gives back’ by creating warm, welcoming spaces that also provide strong green credentials.

While the immediate future remains unsettled, it is clear that correctly enhancing outside space when planning any project in a school is key. While temporary solutions are being put in place to cover short-term issues, there are abundant long-term benefits of robust solutions for dining, playing and learning outdoors.

Fraser Dixon is business development manager at Fordingbridge

FIRE SAFETY THE ONUS IS ON YOU!

For more information call
0113 279 5854 or email
sallyann@yeomanshield.com

www.yeomanshield.com



WALL & DOOR PROTECTION

making business a pleasure for over 50 years

**FIRE RATED
DOOR
PROTECTION**



***Vital all
round defence***

No time to waste

Carole Armstrong from Delabie provides specification advice to help schools increase hygiene levels while reducing water wastage, especially following building closures during the pandemic

Social distancing, hand hygiene, Legionella prevention – the new academic year poses some serious challenges. Welcoming students back to the classroom is anything but simple. Year or study groups are now divided into bubbles, requiring exclusive access to facilities; hand sanitising units should be available at entrances; hand washing has increased exponentially; and staggered lunch and break times have modified usage patterns. Specifiers must factor in the new reality in schools and colleges in order to futureproof education facilities.

The fight against bacteria

Legionnaires' disease is a respiratory tract bacterial infection that affects people with chronic respiratory problems and those with a weakened immune system. Legionella bacteria occur naturally in water and develop where there is stagnant water and a source of nutrients, such as infrequently used pipes or rusted water storage tanks. They multiply at temperatures between 20-45°C and can be harmful if inhaled in aerosol form.

All water systems are subject to biofilms – collections of microorganisms that attach to each other and to any surface in contact with water. During recent building closures, if the system is not regularly maintained

and flushed, bacteria can easily develop in biofilm. Even the different usage patterns associated with education bubbles may have consequences for the water system. Former low usage areas (such as re-allocated staff toilets) may face more intensive use, while showers in changing facilities may have been moth-balled, resulting in stagnant water in the pipes. An increase in water flow can dislodge waterborne bacteria from even well-established biofilms. Conversely, bacteria will also develop in biofilm found in under-used parts of the system.

The solution is simple: prevent the water from reaching the temperatures at which bacteria multiply and limit water stagnation in the installation. Government guidance recommends regularly flushing pipework. This can be done by opening all taps and allowing the water to flow for a minute. However, manual flushing is labour intensive and expensive.

Washing challenges

Students and teachers now have to wash their hands more frequently: when entering the premises; after every break; before and after every meal, and after every toilet visit, sneeze, cough or nose-blow. NHS guidance on how to wash hands correctly recommends using soap and water where possible, and then drying the hands thoroughly with a disposable paper towel.

But how often do students forget to turn off the tap? Traditional basin taps typically consume 9 litres per minute. If hand washing takes 32 seconds, including wetting, soaping and rinsing, and the tap runs throughout, total consumption is 4.8 litres per use. Typically, we wash our hands four or five times a day, but recently this has risen to at least 12 times a day. The impact on consumption is significant – increasing from 24 litres to 57.6 litres per person per day.

Washing our hands more often takes its toll on washroom facilities. Can taps and soap/gel dispensers cope with this increase

Typically, we wash our hands four or five times a day, but recently this has risen to at least 12 times



in frequency of use? Conventional products have parts that wear more easily, resulting in leaks, wastage and more frequent repairs. And even the most durable mechanisms require maintenance when used intensively. Specifying durable, reliable products that are easy to maintain will guarantee a longer product life for the tap or soap/gel dispenser.

Technical solutions for sustainable hygiene

For ecological reasons, we should minimise over-consumption of water. Compared to traditional basin taps, self-closing mechanical or electronic taps can optimise water usage. They can minimise the water bill without sacrificing user comfort. The valve closes automatically after seconds (mechanical models) or after removing hands from the detection zone (sensor-controlled models), and the flow rate is limited. The user can therefore wet their hands, apply the soap and rinse without the tap running continuously.

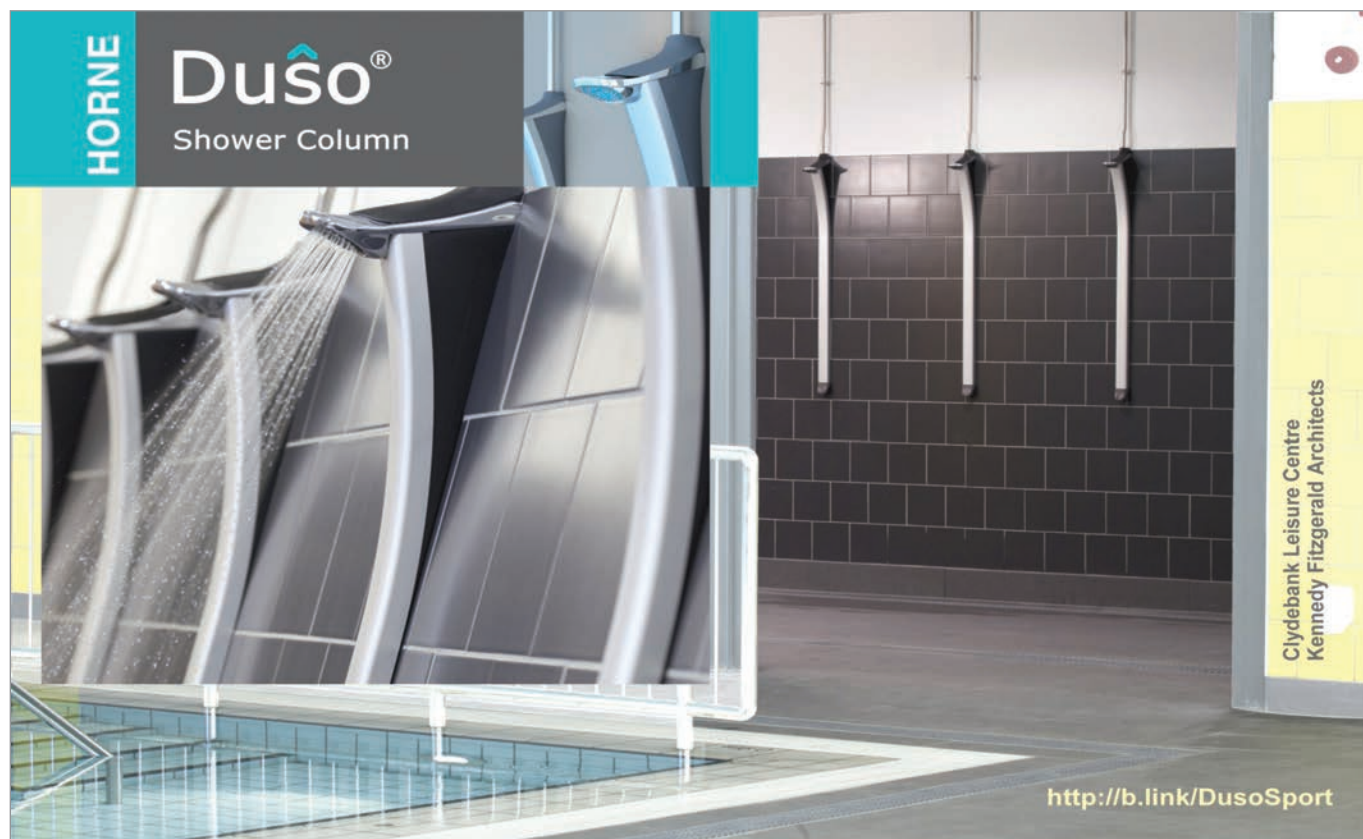
Specifiers can prevent water stagnation and avoid bacterial development by choosing electronic taps with a pre-programmed duty flush. An automatic

rinse activates every 24 hours after the last use, running for 60 seconds. A piston-operated solenoid valve (rather than one with a rubber membrane – behind which a small amount of standing water always remains) is an additional advantage in the fight against bacterial growth.

For optimal hand hygiene, soap and gel dispensers should be reliable and easy to operate. The push-button on mechanically-operated dispensers must withstand intensive use and regular cleaning and disinfection routines. However, electronic soap dispensers provide the hands-free solution for maximum hygiene.

Hygiene is likely to remain firmly on the public health agenda. Washing hands is an essential weapon in the fight against the spread of germs and bacteria. Those who specify sanitary facilities in the education sector must provide hygienic, water-saving and reliable solutions for students and teachers. By understanding the risks and specifying products designed to address these challenges, the risk of contamination can be easily overcome.

Carole Armstrong is marketing and communications manager at Delabie



Flat-out waterproofing success

Victoria Ramwell of Kemper System explains how liquid waterproofing solutions offer the long-term solutions that education buildings need for flat roofs, and the key considerations for specifiers

Whether as part of a refurbishment or new build, waterproofing flat roofs on educational buildings requires a highly durable, long-term solution. Ensuring the roof remains trouble-free for years to come is essential to keep occupiers in a safe and comfortable environment, and reduce future maintenance and costs.

Cold-applied liquid waterproofing solutions can tick all of these boxes, but also offer additional benefits for specifiers and end users alike.

The versatility of liquid systems means that most can be applied to roofs as well as balconies and walkways. They can also be used within a built-up roof system such as a green roof, making them ideal for educational establishments seeking to reduce their carbon footprint.

Quick curing times ensure the installation process is efficient, minimises disruption and helps keep the wider construction programme on track. As liquids are often roller applied with minimal equipment needed onsite, roof areas with lots of plant installed such as air conditioning units can also be easily waterproofed, as can more complex detailing.

For refurbishment projects, liquid waterproofing offers one of the safest solutions for educational sites which sometimes have to remain operational throughout the work. Quick to apply and with solvent-free options available, schools and universities can carry on as normal without having to worry about nuisance odours or fire risks.

The versatility of liquid systems means that most can be applied to roofs as well as balconies and walkways

Specification considerations

Liquids are the fastest growing sector of the flat roofing market, so there's a vast range of products to choose from, but not all perform in the same way. This means specifiers must thoroughly research which system is most suitable for the application.

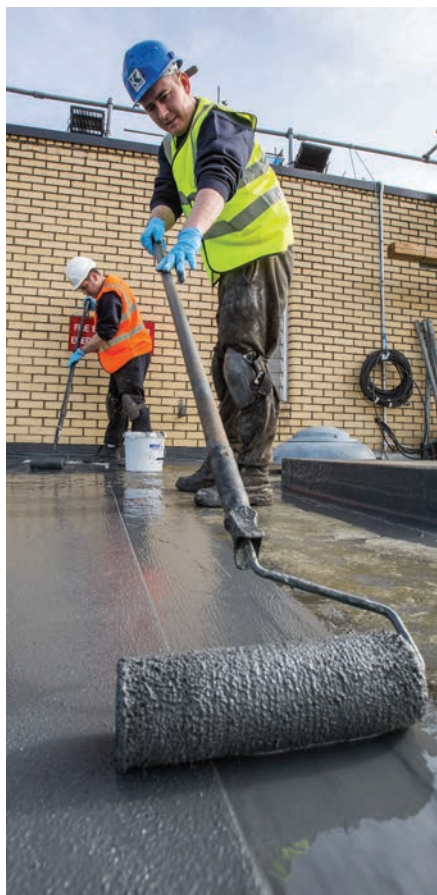
Consider the characteristics that will be needed to comply with Building Regulations and meet performance requirements such as the compatibility of the surfaces to be waterproofed, ability to withstand substrate movement, and resistance to damage from anticipated load levels or trafficking.

The manufacturer's third-party accreditation, such as a BBA certificate, can assist with this process, but specifiers must thoroughly read the details in this document to check the liquid has been appropriately tested and is suitable for the application.

It is also important to establish whether a wet-on-wet or wet-on-dry liquid waterproofing system would be appropriate. When specified from a manufacturer with third-party accreditation, it should offer a durable waterproofing solution, but there are key differences to consider before specifying either one.

For example, when applying any liquid waterproofing product, it is often very difficult to achieve a consistent rate of coverage. This means that although the average membrane thickness may be as required, when the system begins to cure it could still be thin in parts, creating weak spots.

Specifying a wet-on-wet system with a reinforcement fleece makes it easier to obtain a consistent depth and coverage as the liquid system completely saturates the reinforcement layer. The resin then cures to form a single, fleece reinforced, chemically bonded



membrane that is completely UV stable. This helps to avoid potential problems of inter-coat adhesion, thin spots or delamination.

Making the grade

As valuable, long-term assets, educational buildings demand waterproofing solutions that will stand the test of time. The versatility of liquids combined with their installation and performance benefits ensure the refurbishment and construction of flat roofs are delivered quickly, efficiently and to the highest standards.

Case study: The Stay Club

A new student accommodation complex in Camden, London, is benefitting from a liquid waterproofing solution. Constructed by Designated Contractors, 'The Stay Club Kentish Town' development comprises two buildings and 370 rooms. The majority of the scheme has been built using modular room pods.

The main contractor wanted an alternative to felt and which could accommodate complex detailing, so roofing contractors, Millgate Roofing Services,

Liquid waterproofing offers one of the safest refurbishment solutions for educational sites which have to remain operational throughout the work

recommended a liquid waterproofing solution from Kemper System.

The cold-applied polyester-based system was installed across an area spanning around 3,000 m², including large flat roofs on each building. It was also used to waterproof 10 smaller roof areas at different levels; two green roofs, nine balconies, a podium between the two blocks, and a lift shaft.

Simon Barber, who was responsible for applying the waterproofing, said: "The two main roofs were relatively simple to waterproof, but the non-accessible smaller roofs and balconies featured a vast amount of detailing, so a liquid solution was essential."



Handling the 'classroom bubble'



Following the Coronavirus pandemic, focus has been drawn to how educators are responding to social distancing and handling the 'classroom bubble'. Permanent canopy structures provides the optimal value (and more pleasing aesthetic) for a

school environment. Far removed from the off-the-shelf appearance of a white tent on site, a bespoke structural canopy adds not only the required covered space for the short term, but allows schools and colleges an additional area to build into their lesson plans and day-to-day activities. Contact **Fordingbridge** to find out more.

www.fordingbridge.co.uk

University upgrade includes Kinedo showers



St David's Building on the University of Wales Lampeter site is Wales' oldest University building. An upgrade to the building is due to be completed before the University's bicentennial celebrations in 2022 and will provide the most modern facilities for twenty first century learning and teaching. Amongst the changes is the upgrading of the accommodation units to en-suite rooms. the Kinedo range from **Saniflo** was recommended as a cost-effective, time saving, yet contemporary solution and a demonstration was offered to showcase the speed and simplicity of installation. 25 Kinedo cubicles were ordered.

020 8842 0033 www.saniflo.co.uk

Noise mitigation against HS2 enabling works



30 Euston Square is a stunning Grade II* Listed building, acquired by the Royal College of Practitioners in 2010. Having only single glazed steel or timber casements, noise insulation needed to be upgraded to improve the environment for GPs taking their final assessments and exams on lower floors of the building. A mixture of noise reducing secondary glazed units were installed, including vertical and horizontal sliding units and side hung casements. Founded in 1966, Royal Warrant Holder **Selectaglaze** is the acknowledged specialist in the design, manufacture and installation of secondary window systems.

01727 837271 www.selectaglaze.co.uk

Senior gives specifiers a smarter choice



The Government's plans to rebuild and modernise schools across the country present numerous challenges but thanks to **Senior Architectural Systems**, specifiers can take a new view on window designs and layouts.

Senior's patented low U-value **PURE** aluminium window system offers exceptional thermal performance and enables greater choice in the positioning of radiators. By preventing cold air from entering the room, the use of the **PURE** system means radiators can be moved from their conventional position underneath the window to free up valuable floor and wall space and provide greater flexibility.

www.seniorarchitecturalsystems.co.uk

Pairing function with style



Creating a school environment teachers and students can be proud to work in is essential for a sense of school spirit and motivation. Our products help to keep a school smart, clean and tidy, with long-term benefits for a school's hygiene, maintenance budget and accessibility. Read on to find out the benefits of Yeoman Shield for schools.

Interior design

With the hustle and bustle of busy school life, it is often seen as inevitable that the interior designs of schools will quickly start to show signs of wear and tear. Large parts of school

maintenance budgets go towards repairing and redecorating school buildings on a frequent basis; however, this does not need to be the case. Our protection panelling greatly extends the lifecycle of a school's interior design, shielding it against the damage which can occur in busy corridors and classrooms.

Hygiene

By shielding against this damage, our products also prevent the scrapes and dents on walls which can harbour harmful bacteria and viruses and prove difficult to clean effectively. Our panelling has been designed

for easy cleaning and thorough disinfection, whilst the rigid PVCu materials it is made from inhibit the growth of bacteria and mould, assisting in creating a safer and more hygienic school environment.

Customisation

Our wall protection products are fully customisable with imagery, branding and signage, ideal for displaying the school colours or including department names on walls to help students navigate around the school. In addition to the practical value of bespoke wall panelling, this can also elevate your interior design and make your school look smarter, helping staff and students to take pride in their school.

Accessibility

We also offer a range of handrails ideal for increasing the accessibility of your school. Our durable handrails provide support for students who may require help traversing the school, especially on stairs and sloped areas. Like all our products, these are also sturdy and easy to clean.

Interested in Yeoman Shield protection products for your school? Contact us today to discuss your school's needs with us and discuss how we can provide a solution!

0113 279 5854

www.yeomanshield.com/contact-us



SALTO selected to provide access control for Cornell Quarter development



The continual growth of the UK's student accommodation sector has seen SALTO chosen to secure Teesside University's new Cornell Quarter development which is planned to open to students in October.

Part of the University's campus master plan which will see £300 million invested in the campus up to 2026, the £21.4 million Cornell Quarter is a new 300-bedroom residential complex arranged across 48 cluster apartments. Each of these comes complete with communal facilities and a proportion of rooms are designed for students with special mobility needs.

Wates Construction was appointed to build the new development and went with SALTO for its great product range and market leading reputation in the higher education sector. SALTO has now completed installation of 350 doors in Cornell Quarter using its XS4 One handle sets. Smart, secure, innovative and easy to install, the XS4 electronic escutcheon needs no hard wiring and provides a totally wire-free networked electronic locking solution with a great range of features. It is specially designed to fit on most standard doors, and work with the majority of Scandinavian, European and ANSI mortise locks and tubular latches.

Security measures in universities as well as colleges and schools need to be robust and effective but unobtrusive. Parents need to trust educational institutions to look after their children, so it is vital that they provide effective 24/7 security and ensure both students and staff are safe and protected at all times. This is especially true in a campus housing environment, where many of the students are living away from home for the first time.

Building entrances, classrooms, lecture rooms, libraries, laboratories, staff rooms, sports centres, student housing and more can all be protected by smart access control that allows access to specific rooms or areas for selected periods only, with doors auto locking

at pre-specified times as necessary. And, if required, they can also incorporate special features such as SALTO AMOK electronic escutcheons that enable classrooms and facilities to be quickly locked down during a security or other emergency event.

XS4 ONE ACCESS CONTROL FEATURES

USERS & DOORS - Maximum number of users per door: 4 million. Maximum number of doors per system: 65,000. Access levels: unlimited.

KEYLESS & MOBILE ACCESS - Users can open doors with convenient and flexible credentials; by smartphone, PIN number, or smart keycard.

SMART ACCESS - No costs for lock replacement from lost keys. Saves valuable time and resources across the organization.

Jack Cowburn, Account Manager at SALTO says "Good security for student accommodation is paramount. So having SALTO access control installed as one of the security measures at the university will help them maintain a safe, secure environment for students staff and the university community alike."

01926 811979
www.saltosystems.com



Hauraton drainage channels used at school

The £48 million Penarth Learning Community, designed by HLM Architects has been built on the site of the St Cyres Secondary School. Pupils from St Cyres, Erw'r Delyn, Ashgrove and Ysgol Maes Dyfan special schools come together at this complex; claimed to be the largest learning facility of its type in Wales.

Penarth Learning Community School, Cardiff, South Wales, comprises a mainstream comprehensive school with 1280 places, together with a special educational needs (SEN) school, catering for 205 pupils with a wide spectrum of learning needs including those with learning and physical difficulties and those on the autism spectrum. Together with a learning facility, there is also a 1500 m² residential home, allowing 19 pupils to stay over at any one time to provide respite to their families.

The new complex has gained a BREEAM sustainability rating of Excellent and an Energy Performance Certificate "A" rating, so it is hoped the buildings will contribute to reducing

energy use and long term costs to the Vale of Glamorgan Council.

With the site being quite flat and the new buildings' surrounded by blocked and asphalted surfaces, it was essential rainwater is drained effectively. Two Hauraton systems were chosen to drain surface water: RECYFIX® PRO and RECYFIX® SLOTTED channels.

The Hauraton RECYFIX® PRO 100 channel system, fitted with FIBRETEC® C250, HEELSAFE 9mm slot gratings, was used to drain the asphalted yards and car park. Made from PA-GF, the FIBRETEC® C250 HEELSAFE 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.



Aesthetic demands meant the surface water drainage for the blocked walkways had to be as unobtrusive as possible yet fully meet the drainage requirement; this was achieved by installing Hauraton RECYFIX® STANDARD SLOTTED CHANNELS fitted with symmetrical galvanised steel covers. Once installed this system provides an unobtrusive, narrow line of slots in the paved surfaces.

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. The FIBRETEC® grating are factory fitted on all PRO units whilst the slotted components are fitted to the channels on site.

01582 501380 www.hauraton.co.uk

Vandersanden: The educated choice



Award-winning global practice, WilkinsonEyre, has specified bricks and brick slips from innovation-led manufacturer, Vandersanden, to emphasise the horizontal volumes and architectural context of the contemporary, new

Graduate Centre at Queen Mary University in London. Zero, a new brick system from Vandersanden, was WilkinsonEyre's material of choice for the external walls of this 80m-long, seven-storey ground-scraper. The use of brick draws attention to the horizontality of the building's volumes and also blends with neighbouring buildings, including the rear of the People's Palace and nearby Octagon.

01954 268 075 www.vandersandengroup.co.uk

Securing schools of the future



Security expert Mul-T-Lock recognises that every educational facility has a different security requirement and effective management of everyone who comes and goes is paramount, not only to save time and expense, but to also tighten security. For schools that are looking to upgrade or extend their current master key suite, Mul-T-Lock offers a wide range of cost effective solutions to address the varying needs of education buildings. These incorporate patented mechanical and electro-mechanical technology, providing enhanced security with increased control over access; at the same time reducing the number of keys that can be lost or stolen.

www.mul-t-lock.co.uk

Convenient and paper-free



Enjoy reading ADF but find it's not always convenient to have the printed magazine? Or has your workplace turned paper-free? The Digital Issue offers you the same content, delivered straight to your inbox and accessible via smartphone, tablet and desktop computers. Be among the first to read all the latest features, comment, interviews, and more, before the print

issue has even been delivered! What's more, the Digital Issue includes interactive links to featured companies. Subscribe for free now.

www.subscribepage.com/adf

Offsite Solutions awarded fourth contract



Offsite Solutions, one of the UK's leading bathroom pod manufacturers, has been awarded its fourth project for student accommodation developer, urbanest. The £1.8m contract is to manufacture over 500 high specification ensuite shower pods for urbanest City in London.

Offsite Solutions is also manufacturing 46 accessible pods designed in line with DDA requirements to allow easy wheelchair access. Offsite Solutions offers the UK's largest range of pods to suit many different building types and applications.

info@offsitesolutions.com

SIEGENIA's new tamperproof AEROPAC is the perfect ventilation solution for schools

The AEROPAC offers installers and specifiers a non-disruptive through-the-wall ventilation solution for classrooms. Installation is quick and simple requiring no additional ducting and can be used as a stand-alone unit, as part of a multi-unit system or to complement existing ventilation. The new tamperproof model is commissioned and pre-programmed on site and, as the name suggests, cannot be tampered with or adjusted by inquisitive fingers.

Why we need to consider the impact of poor IAQ and noise pollution on our children's education

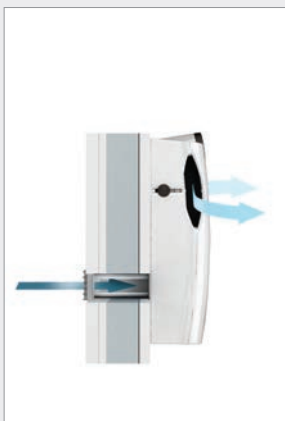
In the UK, approximately 12 million students spend a third of their formative years in education. The vast proportion of this time is spent inside the classroom. With average class sizes of 27, these students are exposed to higher levels of air pollutants than when outside and more importantly, prolonged exposure to CO₂.

Additionally, noise pollution in urban environments has received renewed focus from the European Environmental Agency (EEA) and the World Health Organization (WHO) over the last decade. A variety of independent studies led to changes in the guideline for community noise issued by the WHO in 2018.

What are the effects of poor IAQ and high CO₂?

Indoor air quality has been found to negatively impact concentration and productivity levels within offices and classrooms. Research by Harvard University in 2016 found "statistically significant declines" in cognitive function scores when CO₂ concentrations were increased to 950 ppm, which is "common in indoor spaces". The study found even larger declines when CO₂ was raised to 1,400 ppm.

This issue is a particular problem in the UK, as 1000s of schools are situated in areas with illegal air pollution levels. In order to combat air pollution in schools, the government introduced Building Bulletin 101(BB101): Guidelines on Ventilation, Thermal Comfort and Indoor Air Quality in Schools.



BB93 and Noise Pollution

These schools built in highly polluted areas also pose their own noise challenges, meaning simply opening windows isn't an option. In the UK, legislation governing noise and acoustic conditions in schools, known as BB93, was introduced in January 2003 and updated in February 2015 detailing the upper limit for indoor ambient noise level of 35dB for new build and 40dB for refurbishment.

Why SIEGENIA's NEW tamperproof sound-absorbing AEROPAC should be considered

AEROPAC has been successfully installed, providing hundreds of thousands of active vents in clean air and noise reduction schemes in proximity to roads, airports and train stations across the UK and Europe due to its high sound absorption

performance and low inherent noise.

The unit provides cost-effective ventilated air at volumes up to 160 m³/hr (44 l/s) whilst also attenuating external noise by 50 dB(A). Operating at 60 m³/hr, AEROPAC consumes just 5 Watts and runs at an astonishingly quiet 20 dB(A). The standard unit comes with an active carbon filter to remove volatile organic components (VOCs), odours, and other gaseous pollutants from the air. In addition, NO_x and pollen filters can be specified. NO_x can be problematic in areas of increased traffic and is especially concentrated where schools are located near busy roads. Here the levels present indoors are often much higher than the recommended acceptable levels.

024 7662 2000
www.siegenia.com

Ahmarra launch new specification tools for Fire Doors in Education settings

Ahmarra Door Solutions are one of the UK's leading fire door manufacturers with over 25 years' experience. Our services include the design, manufacture, installation and project management of internal doorsets and glazed screens. We are certified members of the BM TRADA Q-Mark Fire Door Manufacturers and Q-Mark Fire Door Installers schemes.

Our Education Range of severe-duty doorsets has been developed specifically for school, college and university environments. Available with FD30, FD60 and FD90 fire-ratings, they come with compatible ironmongery options, with all essential components fitted at works.

Doors from this range have been installed in Cobham Free, Fulham Boys & Girls, Royal Greenwich, Alfriston and Ipswich High Schools, all specified by leading architectural practices.

We recently launched our new Education Range brochure, which has been updated



with useful information regarding third-party certification, fire ratings, sound reduction, door cores, accessibility and finger protection.

Ahmarra also offer a range of tools to guide you through the specification process, including our L20 Specification Tool, BIM (Building Information Modelling) software and Education Range Door Selector. Our easy-to-use Specification Tool allows you to generate certified fire door specifications

using compatible and tested elements, whilst our BIM process enables you to create doorset families that automatically update as you change the specification of elements within them, ensuring compliance with certification parameters.

02392 389 076

www.ahmarra.co.uk/sectors/doors-for-schools/

Contour provides hygienic heating



Radiator manufacturers, **Contour Heating**, share the success of their most recent project – which involved the supply and installation of their DeepClean Radiator Guards to improve a school's hygiene standards. The wall-mounted installation of Contour's

radiator guard enabled cleaning and maintenance staff access underneath the heat emitter, and the drop-down cover allowed operatives to clean the radiator's internal elements in a fraction of the time. Enhancing safety standards further, the poignantly-titled 'pencil-proof' grilles can be found on all of Contour's DeepClean range of radiators and guards, as well as their exclusive anti-microbial protection – BioCote®.

01952 290498 www.contourheating.co.uk

Solution to stop bacteria entering buildings



Reliable and versatile, the **record DFA 127** Swing Door Operator is an economical way to automate new and existing manual swing doors, to create contactless openings within hours. With its innovative design and advanced technology, the DFA 127 is almost silent in operation, making

it particularly suitable for quieter environments such as classrooms & lecture theatres. The record BLS 60 touchless activation switch is a hygienic, economical solution to prevent the spread of germs and Covid-19 being transmitted via door handles and switches.

07971 096783 www.recorduk.co.uk

Marmox used on Brighton student building



800 of the 600mm long, 215x65mm Thermoblocks from **Marmox** were supplied to lay during the development of the nine storey 'Student Castle' on Brighton's Pelham Terrace. The work also involved using some 60 cartridges of Marmox MSP-360 sealant

to secure the stepped overlap joints. The site agent for Henry Construction, John Keeley commented: "I have used Marmox Thermoblocks on a number of projects in the past – including with previous companies and always found them ideal for applications such as this, easy to cut and lay, while also being very robust."

01634 835290 www.marmox.co.uk

Benchmark appointed at Bristol regeneration



Brandon Yard has undergone one of the biggest regenerations on Bristol harbourside for many years and has been transformed into fifty-eight homes. **Benchmark** was appointed to manufacture the required external furniture. The heavily engineered site called for a simple yet solid pallet of

materials. With this in mind, Benchmark opted for a modified version of their Exeter range. The layout lent itself to using the EX005L bench with angles cut at each end to mimic the paving and planting. Additionally, the steel legs were folded to match these angles.

01243 545 926 www.benchmark-ltd.co.uk

Accessible design in public washrooms

In public places, adapted washrooms must cater for the whole population, not just individuals. Where space is at a premium, separate provision for people with reduced mobility is not always possible. The obvious solution is to specify washrooms with access for everyone regardless of age, level of mobility or independence. This means designing a neutral environment which is discrete, non-stigmatising, aesthetically-pleasing and comfortable. Every user will then feel comfortable, whether they are able-bodied, ambulant disabled, wheelchair users or fully dependent on a carer.

Designing for shared use

Good aesthetic design removes the institutional and medicalised aspect of accessible washrooms. DELABIE's designers are conscious that product appearance is just as important as technical performance. The Be-Line® range of grab bars, shower seats and accessories have sleek, stylish lines that are easy to clean and maintain. Offering a complete range of products in matte white and metallised anthracite provides specifiers with options that complement the décor and provide a good visual contrast with wall finishes.

Adaptability is also important for facilities that provide short-term accommodation for people with reduced mobility, for example, hotels. Removable shower seats provide a practical solution in rooms where the use changes according to the user. The seat can be installed only when required.

Taking the strain

The primary role of grab bars and shower seats is to support the static weight of any



user and assist their movement within the washroom. The elderly or people with reduced mobility can easily lose their balance. If they reach for the nearest hand hold, whether this is a grab bar or riser rail, it must support the additional force required to arrest their fall. The type of fixing is therefore very important. Be-Line® grab bars, shower seats and accessories have robust, concealed fixings which provide the ideal solution. Not only are they completely hidden, they also prevent unwanted removal.

In the event of the user falling, grab bar dimensions also take on greater significance. If the user slips, their arm may get trapped between the wall and the grab bar. By limiting



the gap between the bar and the wall, Be-Line® grab bars minimise the risk of fracture. To provide full support the profile of the grab bar or support rail must allow a firm, natural hold. If the bar's profile is too angular, the hand cannot grasp the bar properly. Be-line® grab bars have an ergonomic profile comprising a flat front face plus a 35mm diameter to optimise the grip. If the diameter is too small or too large, the forearm muscle is activated rather than the shoulder muscle, placing unnecessary strain on the user.

Attention to detail

When considering design in accessible washrooms, the accessories are easy to overlook. Simple touches such as matching the finish on toilet roll holders, coat hooks and toilet brush can improve the aesthetic. Ergonomics play a significant part too, so installing toilet brushes - with a long ergonomic handle that self-centres when replaced in the holder - can be a small detail that improves the user's experience.

Specifiers of adapted washrooms in non-domestic environments no longer need to compromise on aesthetics. It is possible to incorporate stylish designs that will withstand intensive use while upholding user safety and hygiene standards.

The Be-line® self-centring toilet brush with long, ergonomic handle



Co-ordinating accessories improve the aesthetic



01491 824449
www.delabie.co.uk

Cascade with BioCote® Antimicrobial Protection



West End Dance

The Cascade vinyl that performers love, now with added protection

Harlequin Cascade has been the choice of the world's most prestigious dance and performing arts companies for many years because dancers know and trust the floor.

But in these difficult times, it is more important than ever to focus on improving hygiene, so Harlequin have now produced a new, improved Cascade with BioCote® antimicrobial protection.

The BioCote® Silver ion technology is manufactured into the floor and creates a surface upon which microbes, such as bacteria and viruses, cannot survive. This added technology has no effect on the appearance or performance characteristics of the Harlequin Cascade.

**For product information and advice contact our technical team
enquiries@harlequinfloors.com or call +44 (0) 1892 514 888**



HARLEQUIN
www.harlequinfloors.com