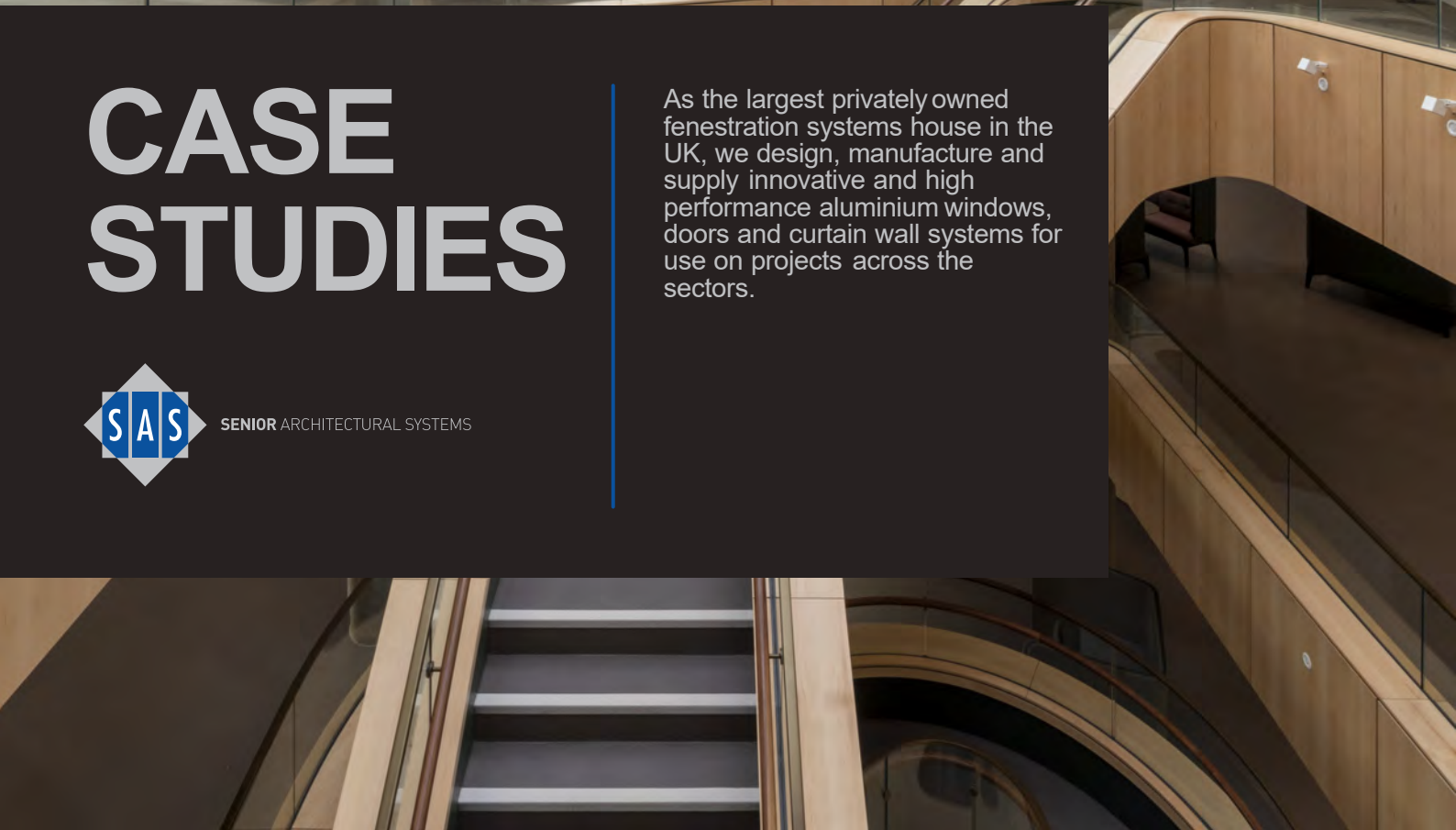
CASE STUDIES

As the largest privately owned fenestration systems house in the UK, we design, manufacture and supply innovative and high performance aluminium windows, doors and curtain wall systems for use on projects across the sectors.

SENIOR ARCHITECTURAL SYSTEMS

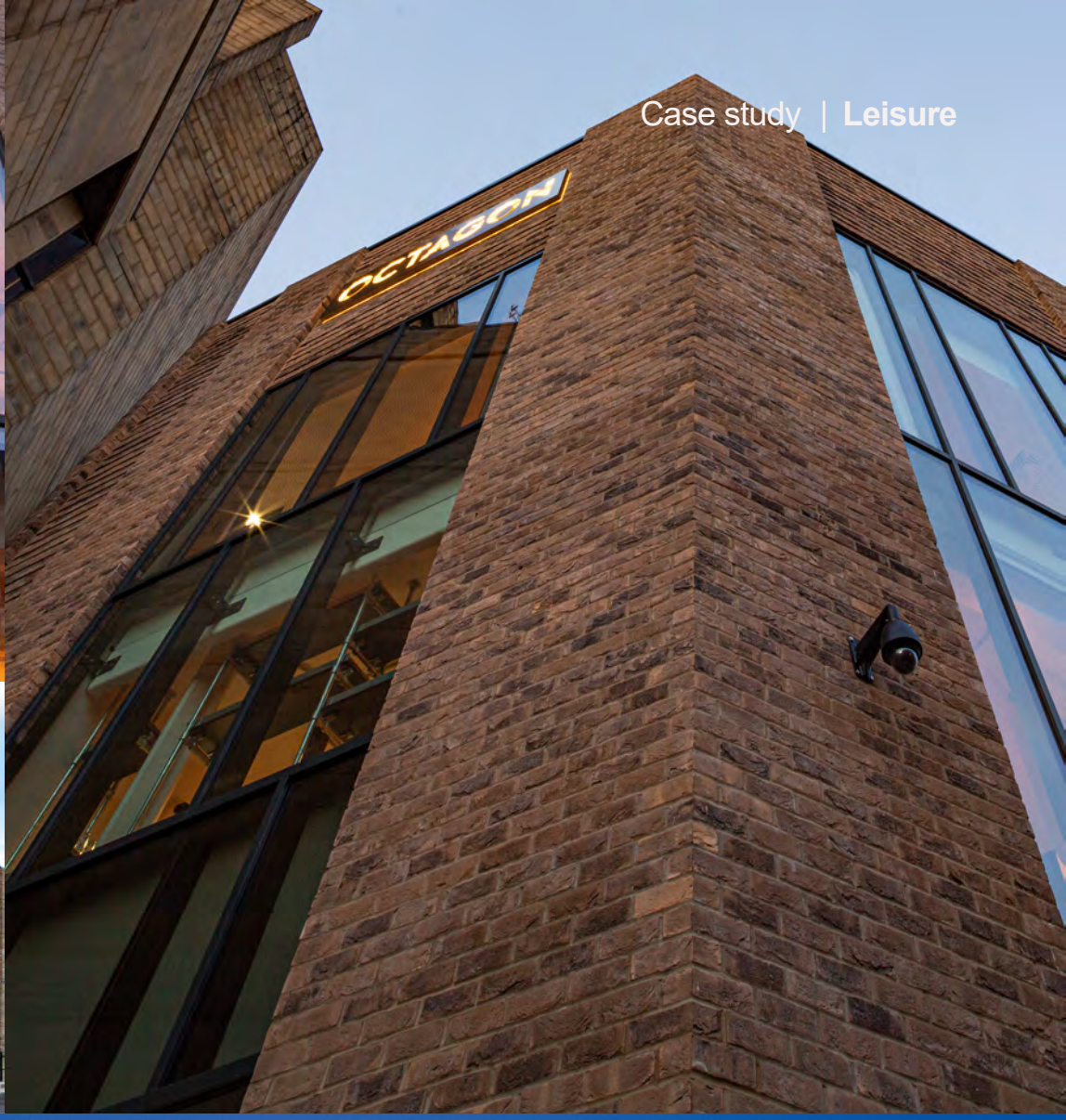


Case study | **Leisure**

Octagon Theatre
Bolton

The aim of this £12M refurbishment and remodelling of the 1960s Octagon theatre in Bolton was to make the building fully accessible, improve acoustics and provide new facilities for community use, upgraded performance areas and new front of house and back stage amenities.

SAS SENIOR ARCHITECTURAL SYSTEMS



Octagon Theatre, Bolton

Architect:
JM Architects

Main Contractor:
Wilmott Dixon

Installer:
Aire Valley Architectural

Products:
SPW600e
SPW502 Door
SF52 Curtain Wall

Opened in 1967 by HRH Princess Margaret, the Octagon Theatre in Bolton, Greater Manchester needed a significant facelift to make it fit for today's theatre going public.

With a £12M budget, JM Architects were asked to reconfigure and extend the original building to provide new facilities for community use, upgraded performance areas and new front of house and back stage amenities. Their ingenious design includes an impressive modern new façade created using Senior's thermally efficient SF52 curtain walling. This has been seamlessly integrated with Senior's robust SPW501 aluminium commercial doors to withstand the heavy use through the new high traffic entrance and foyer, together with SPW600e aluminium windows for added daylight and ventilation. Extensive alterations to the original structure were needed including partial demolition of the original structure to the front, demolition of the rear 3 storey block, refurbishment of the existing hexagonal auditorium and the building of a new 5 storey rear extension.

The constrained site provided a significant challenge and BIM modelling was used to make sure that the new structure tied into existing levels of the original concrete frame and to minimise any issues on site as new service runs were weaved through the existing and new structures.

Funded by Bolton Council and the England Arts Council the refurbished Octagon theatre is now the centre piece of a £1bn masterplan to rejuvenate the town and an iconic cultural landmark that can be enjoyed by all.

Case study | **Leisure & Education**

Danum Gallery, Library & Museum
Doncaster

Designed by Bond Bryan architects, the new Danum Gallery, Library and Museum in Doncaster is a bold and ambitious restoration of four existing buildings to form a single cultural hub.

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Danum Gallery, Library & Museum, Doncaster

Architect:
Bond Bryan

Main Contractor:
Willmott Dixon

Installer:
Chemplas Ltd

Products:
SPW501 Door
SF52 Curtain Wall

Keen to preserve the Victorian frontage of Doncaster high School for Girls, the architects decided to make it into the central exhibit of the scheme. This was achieved by restoring and encasing the whole façade in glass using Senior's SF52 curtain walling. The result is a stunning focal point and a unique exhibit which looks even more dramatic when lit up at night.

Built over four stories, this £15 Million project is now home to the Doncaster Library, Museum, and Art Gallery as well as the Rail Heritage Centre. There's also a café, meeting and conference spaces, plus an internal courtyard, as well as an amphitheatre space for use by local amateur dramatics groups. Much thought has been given to accessibility including the needs of those with dementia and Alzheimer's disease, so that everyone in the community can explore and enjoy the rich cultural heritage of this former rail town.

The virtual opening took place in March 2021 during Covid Lockdown via a virtual tour. Now open to the public, visitors can see many previously locked away exhibits and two fabulous locomotive engines built in Doncaster, the No. 251 and Green Arrow.

It is hoped that over time the new building will become a cultural hub that will inspire creativity, informal learning, and innovation.

Case study | **Education**

Brookfield Business School
Leicester

When the University of Leicester decided to move their School of Business to a new site, they wanted to create a dedicated campus worthy of their vision of becoming a top twenty global academy for leaders, innovators and change makers.

SAS **SENIOR** ARCHITECTURAL SYSTEMS

Brookfield Business School, Leicester

Architect:
Shepheard Epstein Hunter PLC

Main Contractor:
Henry Boot

Installer:
Unique Window Systems

Products:
SPW600 Window
SPW500 Door
SPW501 Door
SF52 Curtain Wall

The chosen site was the historic 19th century Brookfield House situated on London Road in the Stoneygate Conservation Area. This mock Tudor mansion was once home to Thomas Fielding Johnson a founding benefactor of the University. Bought by the university in 2013, the 7-acre site consisted of a disparate group of 1870's, 1960's and 1980's buildings which had seen many changes over the years.

The job of architects at Shepheard Epstein Hunter, was to deliver the £15.8 Million plan to sympathetically refurbish and selectively remodel Brookfield House to bring it back to its former glory, demolish the mid-20th Century extension to the Victorian property and build a more architecturally sympathetic gabled 3 story extension using materials carefully chosen to complement the existing structure. The plan also included the building of an elliptical lecture theatre plus a new main reception and restoration of the stable block and courtyard area using traditional materials.

This was a complex project which required precision to achieve the correct angles for the gable ends, close co-operation between all sub-contractors and 3D BIM modelling to ensure co-ordination of all the elements involved.Created in August 2016, by bringing together the Department of Economics and School of Management, the University of Leicester's School of Business has now moved into its new home at Brookfield campus.

This high-quality educational facility offers a variety of teaching and social learning spaces, office spaces, a ULSB Trading Room, home to 16 dual-screen Bloomberg terminals, an upgraded café and a courtyard with WIFI to enable students to work outside.

To give the campus more visibility, the view from London Road has been opened up and extensive landscaping with ornamental planting, a new pond and a network of paths adds to the welcoming green environment.

Case study | Residential

Arts University Bournemouth

Sustainability and design were the major focus for this new £24 project at the Arts University of Bournemouth (AUB). Quite an unusual brief for student accommodation. The aim was to achieve an overall BREEAM environmental rating of “Very Good” and resulted in an imaginative design from Design Engine Architects.

SENIOR ARCHITECTURAL SYSTEMS

Arts University, Bournemouth

Architect:
Design Engine Architects

Main Contractor:
Morgan Sindall

Installer:
Soundcraft

Products:
SPW600 Window
Louvre Guard Window
PURe® Slide Door
SPW600e Door
SPW501 Door
SF52 Curtain Wall

Instead of creating a typical single high rise student accommodation block, the design for the 9,200 m2 scheme included 11 three- and four-story blocks formed from three buildings. Each block contains eight bed clusters with communal kitchens and dining areas, around a landscaped courtyard.

To achieve all the desired sustainability and design features within the agreed budget required a high degree of value engineering and a significant level of collaboration and teamwork.

Early engagement with Senior's Architectural Advisors, led to the choice of a highly thermally efficient glazing package, which met the scheme's sustainability, design and budgetary requirements. It also ensured a streamlined procurement process and delivery within the required timeframe.To help reduce the buildings' energy demands still further, roof-top solar panels were installed along with high performance thermal insulation.

The scheme was completed with the planting of more than 100 trees to create a woodland boundary and provide a green and natural environment for students and residents of the nearby village.

This imaginative student accommodation reflects the University's commitment to promote sustainability and enhanced student living – one of the reasons that the AUB has been named as a Top Modern University in terms of student experience by The Sunday Times Good University Guide. The project was secured via the Southern Construction Framework. SCF is a collaboration between Devon and Hampshire County Councils that offers public sector organisations throughout London, the South East and the South West support with construction procurement.

Case study | Residential

Waterside Apartments
Nottingham

Completed in early 2020, the Waterside Apartment scheme is a luxury residential development on the banks of the River Trent and a pivotal part of the wider regeneration of the area. The project involved the conversion of the former Rushcliffe Borough Council Civic Centre, plus the building of two new 11 storey residential towers. The result is a mix of 121 luxury apartments and duplex penthouses, with offices and leisure facilities on the ground floor.

SAS SENIOR ARCHITECTURAL SYSTEMS

Waterside Apartments, Nottingham

Architect:
Leonard Design

Installer:
Duplus Architectural Systems

Products:
SPW600
PURe® Slide Door
SF52 Curtain Wall

To make the most of the breath-taking views over the river towards the city, Leonard Design Architects specified an extensive high performance fenestration package from Senior Architectural Systems.

Floor to ceiling glazing using SF52 aluminium curtain walling and SPW600 aluminium windows gives a light and spacious feel throughout.

In addition, for the apartments, the installation of PURe® SLIDE doors leading to Juliet balconies provides natural ventilation when open and exceptional thermal performance to maintain a comfortable living environment when closed.

For the penthouse apartments, installation of a 4-leaf configuration of the PURe® SLIDE door enables the central two doors to glide effortlessly open giving access to the panoramic roof terrace. The perfect spot from which to watch the sun set over the city.

Case study | **Education**

Percy Gee Building
Leicester

The Percy Gee Building, situated in the heart of the University of Leicester's campus, is home to the Students' Union. After designing a spectacular award-winning transformation for most of the Percy Gee Building in 2010, architects at Shepheard Epstein Hunter were determined to come up with an equally impressive design for development of the remaining East Wing.

SAS **SENIOR** ARCHITECTURAL SYSTEMS

Percy Gee Building, Leicester

Architect:
Shepheard Epstein Hunter PLC

Main Contractor:
Stepnell

Installer:
Unique Window Systems

Products:
PURe® Window
SPW501 Door
SF52 Curtain Wall

The building's WOW factor comes in the shape of the new eastern façade of the four-storey extension which fronts directly onto the recently completed Fielding Johnson Square.

Created using Senior's SF52 silicon glazed and fully capped curtain walling, with PURe® aluminium opening vents, the façade gives a light and spacious feeling to all four floors. With such a large expanse of glazing, thermal efficiency was a key consideration which was delivered thanks to the enhanced thermal efficiency of SF52 and the PURe® thermal break in the innovative patented PURe® windows giving incredibly low U values.

Curved glazing and eye-catching perforated panels add to the dramatic appearance of the façade. For the main entrance, Seniors robust SPW501 Commercial Doors were chosen to cope with expected heavy footfall. The overall effect is a stunning entrance and façade to a spectacular building.

Named after H. Percy Gee, a director of local shoe firm Stead & Simpson and an early benefactor and promoter of the university, the new and improved Student Union building is now the main focal point for student activity, home to more than 150 different student societies, and a central location for support services. The amount of social learning space for students in the East Wing has doubled and the building now features a new and vastly improved food court, a multi-purpose studio for performance societies, a state-of-the-art media suite, as well as a new informatics lab for the study of information science.

Case study | Leisure

Cinema Complex Civic Quarter Doncaster

Senior Architectural Systems has helped transform another building in Doncaster following the completion of this state of the art 6 screen Savoy cinema and restaurant complex. Located in the city's Civic Quarter, the development has been designed by Harris Partnership and delivered by main contractor Lindum, with Senior's SF52 aluminium curtain wall system and SPW501 aluminium commercial door fabricated and installed by supply partners Alusec.

SAS SENIOR ARCHITECTURAL SYSTEMS

Cinema Complex, Doncaster Civic Quarter

Architect:
Harris Partnership

Main Contractor:
Lindum

Installer:
Allusec

Products:
SF52 curtain wall
SPW501 commercial Doors

The New Cinema Complex, situated in the heart of Doncaster civic Quarter participates in the revitalisation of Doncaster's town centre. Designed by Harris Partnership and constructed by Lindum, this new six-screen cinema will transform Doncaster's civic quarter bringing space and opportunities for five restaurant units for residents and visitors to experience, enjoy and benefit from.

The £8.5m cinema complex scheme was backed by the Sheffield city region with £635,000 of Sheffield City Region Local Growth Funding and is set to create over 100 jobs.

This new local attraction will include luxury recliner and rocker seats, Vertex Viewing, Next generation 4K laser projection and Dolby Atmos immersive sound.

To complement the design, Senior's SF52 aluminium curtain wall and Senior's SPW501 commercial doors were fabricated and installed to the project by supply chain partners Alusec, which provide a light and spacious feeling throughout the space and entrance way.

Case study | Health

Sir Robert Ogden MacMillan Centre
Northallerton

The Sir Robert Ogden MacMillan Centre at the Friarage Hospital in Northallerton is the latest in a long line of healthcare projects to be completed using Senior's aluminium fenestration systems. Chosen for their aesthetics, durability and thermal efficiency Senior Architectural Systems' innovate fenestration products were able to answer the full specification and budgetary needs of the project.

SAS SENIOR ARCHITECTURAL SYSTEMS

Sir Robert Odgen MacMillan Centre, Northallerton

Architect:
P+HS Architects

Main Contractor:
Interserve Construction

Installer:
Topside Group

Products:
PURe® Window
SD Door
SPW500 Door
SF52 Curtain wall

Designed by P+HS Architects to be functional, yet have a non-clinical supportive feel to lift the spirits of those using this new state of the art cancer care facility, Senior's thermally efficient SF52 aluminium curtain walling was specified to create a circular façade which provides maximum views of the surrounding landscaped gardens. By integrating the curtain wall with Senior's patented low U-value PURe® aluminium windows, not only could the required levels of daylight be achieved with added ventilation, but the PURe® windows also added to the overall efficiency of the building envelope.

To cope with high traffic areas, two of Senior's high-performance commercial doors systems were selected. Automatic SD aluminium doors were installed to the main entrance and robust SPW500 doors, were used throughout to give interior and exterior access.

The £10 million project opened its doors in December 2018 and now provides a restfull chemotherapy lounge, a relaxing garden space as well as complementary therapy, consultation and treatment rooms.

For patients the new Sir Robert Ogden MacMillan Centre means that they no longer have to walk to different parts of the hospital for treatment, as all the cancer treatment and support services are now under one roof.

Case study | **Research**

James Dyson Building
Cambridge

Funded by an £8 million donation from British inventor, designer and engineer James Dyson, this new hub for innovation and invention at the University of Cambridge's Department of Engineering was designed by Nicholas Hare Architects.The new James Dyson building is now home to some of the brightest engineering minds in the country undertaking post graduate research. The design reflects the ground-breaking research performed within the building and boasts several energy efficient features to provide a low-carbon footprint.

SAS **SENIOR** ARCHITECTURAL SYSTEMS

James Dyson Building, Cambridge

Architect:
Nicholas Hare Architects

Main Contractor:
Morgan Sindall

Installer:
Glass and General Ltd

Products:
SPW600 Window
SF52 Curtain Wall

A key part of the building envelope is Senior's SF52 curtain wall system. The individual SF52 units were fabricated by Glass & General Ltd. at their fully equipped high-tech factory in Dagenham, and then craned into place fully glazed to reduce on-site time. This enabled main contractor Morgan Sindall (with whom Senior has an established trading agreement) to meet the tight completion deadlines.

The system's slim 52mm sight lines provided the perfect solution to creating an attractive uniform appearance for the new building as well as maximising the flow of natural light into the largely open plan interiors.

The robust construction of the SF52 curtain wall system and its exceptional thermal performance was also key to its specification and meeting the requirements of reducing the building's overall energy and life cycle costs.

The building itself has been designed to offer live data about the internal environment, temperature and strain to provide a 'real time' picture of how it is behaving. Speaking about the building James Dyson said "I'm hopeful that this new space for Britain's best engineers at the University of Cambridge will catalyse great technological breakthroughs that transform how we live."

Case study | **Hospitality**

Grantley Hall
Ripton

Installation of high-performance aluminium fenestration solutions at Grantley Hall in North Yorkshire has helped the recently renovated and extended luxury Hotel to achieve carbon neutral status.After buying the dilapidated 17th century mansion, which had been empty for 6 years, new owner Valeria Sykes, was determined to restore the stunning Grade II listed building to its former glory. The result is one of the most opulent 5-star hotels in the UK, providing luxury accommodation plus a new build 5 Bubble Luxury status spa and wellness retreat.

SAS **SENIOR** ARCHITECTURAL SYSTEMS

Grantley Hall, Ripton

Architect:
Bowman Riley

Main Contractor:
R N Wooler

Installer:
Aire Valley Architectural Aluminium Ltd

Products:
PURe® Window
SPW501 Door
SF52 Curtain wall

A key challenge of the project was to minimise the impact of the new extension on the existing listed building. With all the original windows in the hall sympathetically restored, it was vital that the fenestration package for the new spa building was appropriate in terms of both aesthetics and performance.

The slim sightlines offered by Senior's SF52 aluminium curtain wall provided the ideal solution and were perfectly complemented by Senior's high-performance SPW501 commercial doors and patented low U-value PURe® aluminium windows.

Close cooperation between designers at Bowman Riley, the building team at R N Wooler and Senior's supply chain partner Aire Valley Architectural Aluminium Ltd, allowed the hotel to trade 12 months ahead of schedule.

Even more impressive, both the Grade II listed building and the new spa building achieved carbon neutral status thanks to the installation of a ground source heat recovery system, and Senior's exceptionally thermally efficient aluminium fenestration products which contributed to the overall energy-efficiency of the scheme.

Case study | Commercial

Welcome Building, RHS Wisley
Surrey

The Royal Horticultural Society's garden at Wisley in Surrey, receives thousands of visitors every year. So, the design for the new £20 Million Welcome Building by KSS architects had to be both inviting and robust. Officially opened in June 2019 by gardener and television personality Alan Titchmarsh, it features a new shop, garden centre, 100 seat table-service restaurant and café with both indoor and outdoor seating. Cleverly designed around an open-air 'village square', it also provides an attractive outdoor space that can be used for special RHS events.

SAS SENIOR ARCHITECTURAL SYSTEMS

Welcome Building RHS Wisley, Surrey

Architect:
KSS Architecture & Design

Main Contractor:
Buckingham Group

Installer:
Elite Aluminium Systems

Products:
SPW600 Window
SPW501 Door
SF52 Curtain Wall

The light and airy design of the new building has transformed the entrance to the garden, putting design, plants and horticulture at the forefront for visitors to enjoy. Created using Senior's slim profile thermally-enhanced SF52 aluminium curtain walling system, the glazed facades flood the interior space with natural light and perfectly frame views of the surrounding gardens.

To ensure robustness as well as safe and secure access, Senior's high performance SPW501 aluminium commercial doors were integrated with the curtain wall whilst thermally-broken SPW600 aluminium casement windows were used throughout provide versatile ventilation.

The design also features a carefully selected palette of materials including timber cladding to complement the natural beauty of the garden. To enhance the overall natural feel of the building still further, Senior's aluminium frames were powder coated in grey at the company's state of art facility in South Yorkshire.

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SENIOR ARCHITECTURAL SYSTEMS

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