

T INNOVATING Times



MEET THE ARCHITECT

Christian Wren, Associate at MATT Architecture, discusses how IG Masonry Support assisted in the Ilona Rose House project in Soho, London.

PEOPLE & PLACES

David Comiskey, Reader (Associate Professor) at Belfast School of Architecture and the Built Environment, discusses his favourite building and his journey into architecture.

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T 01283 200 150

F 01283 223 352

info@thekeystonegroup.co.uk

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T 028 8676 2184

F 028 8676 1011

info@thekeystonegroup.co.uk



Innovation is hard because 'solving problems people didn't know they had' and 'building something no one needs' look identical at first.

Aaron Levie



Welcome to a new edition of Innovating Times. Featuring interviews, blogs, insights and case study examples of Keystone Group's innovations, this edition fulfils its usual remit to inform, educate and entertain.

As in construction, as with life, innovation is core to creating opportunities for progression. Building product manufacturers that embrace innovation, demonstrate a continuing commitment to excellence. It's a trait that is not only essential to creating a unique and successful business model, the adoption of cutting-edge technology and new ideas is intrinsic to the building of a safer, sustainable, better quality built environment.

As a manufacturer of excellent reputational standing, we are aware of our additional responsibility to innovate solutions for a Greater Good. The world around us is changing fast and with global warming an increasing worldwide concern, maintaining the status quo in respect of how we build is not an option. As part of a building supply chain, it is our joint responsibility to develop products and materials that lead to smarter working practices and ultimately, a cleaner, healthier world for future generations to enjoy.

Get in touch: email innovation@keystonegroup.co.uk

Speaking of supply chain stakeholders, this edition of Innovating Times includes an interview with architect Christian Wren for a fascinating overview of IG Masonry Support's involvement with the Ilona Rose House mixed-use development in London's Soho. We also speak to David Comiskey, Associate Professor at Belfast School of Architecture and the Built Environment, who discusses his favourite building and journey into architecture.

In other pages, Keystone Lintels explores how special steel lintels meet the demands of today's architecture, whilst we also take a look at the winners of a recent architect's competition run by Keylite in partnership with RIBA Journal to create remarkable interiors using natural light.

Innovation is at the heart of what we do at Keystone Group and we are delighted to be able to share with you the progress that has been made possible by our committed, forward-thinking teams.



Sean Og Coyle
Commercial Director, Keystone Group

What is
the greatest

CHALLENGE

facing architects
today?

Architects are problem solvers, and with the built environment rapidly evolving with the ever-increasing demands of legislation, climate change, decarbonisation, technological developments, and societal changes, it is their opportunity to showcase their skills in solving complex problems.

No matter how tricky their brief may be, they have the ability to build a creative solution without being confined to simply designing the project. They have the capability to be involved in the whole construction process like never before and weave their design thinking into every area, which should be celebrated.

We asked some leading professionals for their thoughts on the future of architects.

CDC Studio



Robin Dryer
Director ARB RIBA
CDC Studio

We all know that the climate catastrophe is rapidly increasing and as architects, we have a decent understanding of the steps we need to take to mitigate our contribution. The challenge at the moment is the integration of this new knowledge into viable projects. We need both top-down and bottom-up change to address this and change the agenda when it comes to building. More regulation is needed, with stricter and shorter deadlines to encourage developers and clients to consider sustainability and energy efficiency as a priority.

MATT Architecture



Christian Wren
Associate
MATT Architecture

With economic forecasts looking bleak for the next twelve months, there is the risk that developers will be more cautious about proceeding with projects. This is exacerbated by the snail-pace planning process which increases the time and financial burden of developments moving forward. Our challenge as architects is to continue demonstrating the great value our expertise provides to projects, from initial design through to completion, and as financial constraints are tightened, this expertise only becomes more critical.

Ulster University



David Comiskey
Reader
Ulster University

In my opinion, there has never been a more exciting time to be studying Architectural Technology. When we think of the challenges the industry is facing in respect of the climate emergency and labour shortages, alongside the opportunities arising from digital delivery and digital information management, the new generation of AT's is perfectly positioned to drive the changes required. This is due to their appreciation of performance-based design requirements and technical design development, including an appreciation of new and emerging concepts, alongside an awareness of construction processes, digital project delivery, and information management.

Keystone Group



Cathal Nicholas
Product Design Manager
Keystone Group

We face many problems daily, and learning how to solve them and overcome them is of utmost importance. Working within an Architectural practice for 15+ years has given me insight, awareness, and understanding of some of the common issues within the profession, including costs, buildability, skilled labour, legislation, and so on. Now on the other side of the fence, I understand how offsite product solutions can solve or at least ease many of these problems.

The challenge for architects is to work closely with manufacturers to support the development of more offsite solutions.

Ilona Rose House, London

Architect

MATT Architecture

Main Contractor

Sir Robert McAlpine

Brickwork Contractor

Lesterose Builders Limited

Location

Soho, London

Products Used

Welded Masonry Support

Brick Slip Arch Lintels

Brick Slip Feature Bolt-up B.O.S.S.

Brick Slip Soffit Panels

Overview

For the striking new Ilona Rose House, a mixed-use development that bridges the Tottenham Court Road Opportunity Area and Soho Conservation Area, IG Masonry Support was called upon to supply a range of its market-leading masonry support and brick slip systems in order to create impressive architectural features.

A redevelopment of the old Foyle's Bookshop on Charing Cross Road, Ilona Rose House comprises 80,000 sq ft of office space, along with retail, restaurants, an art gallery, nightclub and eight apartments. Spread over 13 stories including four below ground and 14,000 sq ft of south-west facing terraces on the upper floors, MATT Architecture's design for the highly decorative and cantilevered façade includes rose motifs across each floor of the building.



Solution

IG Masonry Support collaborated with the whole design team to ensure that its products met the architectural and structural requirements of the project whilst ensuring maximum buildability for the contractor. As a result of these discussions, the B.O.S.S. system pushed the boundaries of this project due to the shape requirements. A quarter circle on the corners of the building and a three-level step-down feature was required in the brickwork – a challenging yet bold aesthetic, IG Masonry Support was able to bring to life with its Welded Masonry Support (WMS) and B.O.S.S. units. The two systems also provided the aesthetic finish required including three different brick types to give further interest to the façade through the use of colour.

Furthermore, discussions between IG and brickwork contractor Lesterose led to an agreement on the size and weight of the Brick Slip Panels for the Vault, which would ensure an efficient installation process. 57 individual interlocking Panels, made up of nine designs varying in size and curvature, were designed and manufactured to suit a stretcher course bond pattern.

The utilisation of IG Masonry Support's prefabricated components ensured that all installation was undertaken efficiently, resulting in onsite labour savings and increased productivity.

For what is a landmark development in Central London, IG's solutions have covered all bases, helping to achieve the architect's vision and ensuring this stunning new building stands the test of time.



For a commercial build that stands out from the crowd in the heart of Soho, IG Masonry Support was able to meet the architect's brief through the provision of a range of masonry support and brick slip products to achieve the desired aesthetic finish. IG Masonry Support designed bespoke brick slip systems for each application, including cantilevered and curving elevations, which provided practical solutions for brickwork contractor Lesterose, saving on installation time significantly.

Challenge

In order to achieve the architect's vision, the expertise of IG Masonry Support and its products was able to fulfil the requirements of this bespoke designed project. The main brick façade of the commercial building required a number of shape requirements to form the central pier. As part of the distinctive and impressive design, arches that come out from the central pier to the corners of the building needed to create an optical illusion of closure into the ground.

For the inside of the Vault, which joins the main building on Greek Street with the link building, a continuous hanging brick effect was required for the design and utilised IG's Brick Slip Panels.

To create an optical illusion of closure into the ground, a combination of IG Masonry Support's B.O.S.S. (Brick on Soffit System) and Welded Masonry Support was used.

The Brick Slip Panels were designed to suit a stretcher course bond pattern running along the length of the arched vault, the overall installation measured 13.1m in length and 3.1m in width.



Truly Unique Façade

WITH
CHRISTIAN WREN

Architect Christian Wren relishes the opportunity to produce buildings that provoke and inspire.

Christian tells us about his background, the work of MATT Architecture, and his contribution to the Ilona Rose House project.

The Story So Far

It was around a year ago that I knew I wanted to be an architect. This was fortuitous as I'd already been qualified for five years! Architecture education has little bearing on the day-to-day role of what architects do, so it wasn't until I saw Ilona Rose House through to completion on site that I knew this was the right career.

My early career was full of interesting roles. A short period at the Architects' Journal was followed by my first role in practice working on the planning application for Hinkley Point C Nuclear Power Station. I then enjoyed a somewhat more laid-back year working for a small practice in Sydney. Since 2014 I've been working in London on a wide range of commercial and residential developments.



Where's the Buzz?

There aren't many professions where the fruits of your work are there for all to see, experience, and critique. The most satisfying part of my role is seeing the spaces I've helped create be enjoyed by tenants and members of the public.

As lead consultants, we're in the critical position of coordinating with almost everyone involved in a project. Whether that be suppliers or contractors, acoustician's or structural engineers, clients or local authorities. Every member of a project team has something different to input, and I love that no conversation is the same.

Define MATT Architecture

The practice was established by Matt White in 2011. We're fairly unique in that we're a small practice that works predominantly on very large projects. This is great for our team as it means they have more responsibility for projects and enjoy a much deeper and broader experience in their roles. It's also great for our clients as they get a more personal service from us.

Our work is serious, yet playful. Wellington House, a commercial scheme of ours in Wimbledon adorned with intricately patterned terracotta cornices was featured on the cover of the government's 'Living with Beauty' report. Our vision is to continue to produce buildings that provoke and inspire.



Seeing people wander through and stopping to take in the building has been immensely gratifying.

Stand Out Moments

Completing Ilona Rose House is my career highlight. Within the development, there's a public courtyard lined with restaurants that are now starting to open. Seeing people wander through and stopping to take in the building has been immensely gratifying.

Personally speaking, living and working in Sydney was a wonderful experience.

I had just turned 22 and fancied living in Australia for a bit, so sent a load of speculative CV's to practices out there. To my eternal gratitude, a local architect called Tim Earnshaw replied asking when I could start. I enjoyed a daily commute of cycling over the iconic Harbour Bridge and got to work on various projects in and around central Sydney.

The Ilona Rose House Project

Ilona Rose House is a 13-storey mixed-use office and retail development for Soho Estates on the site of the old Foyles Bookshop in Soho, London. The project includes 12-13 Greek Street, an affordable housing scheme that backs onto a public courtyard dividing the development. We were asked to design something evocative, rich in materiality, and catered specifically to tenants.

Central to this is the truly unique façade, Pink GRC panels patterned with a moulded rose motif, patinated brass panels forming a sweeping gold scoop, rose shaped ceramic tiles in Wedgwood blue - a homage to Josiah Wedgwood who had a showroom on the site in the 1700's. Brickwork forms a key part of the material palette, with cantilevered curved brick elevations, a three-story raking brick wall, and a barrel-vaulted brick soffit requiring inventive design solutions from ourselves and the contractor team.



Offsite Solutions from IG Masonry Support

IG Masonry Support - in close collaboration with ourselves, construction manager Sir Robert McAlpine, and brickwork contractor Lesterose - helped us achieve our ambitious design intent. IG's B.O.S.S panels allowed us to realise elevations that would otherwise not have been achievable, while IG's Welded Masonry Support was used in various bespoke ways across the site. IG's products have served as simple solutions to many complex problems.



There's one very specific detail on the project I'm most proud of. There's an elliptical archway clad on one side with ceramic tiles, the other with brickwork, complete with a brass strip along the elliptical abutment between the two. The detail could have been a real mess, but through close coordination with IG, Lesterose, and tilework contractor Szerelmey, we produced an incredibly precise and neat solution with IG's Brick Slip Feature Arch at the heart of it.



IG's products have served as simple solutions to many complex problems.

The Future of Offsite

Every building is, in essence, a one-off prototype, and as architects and clients get more ambitious, and more focus is put on retrofit rather than rebuild, more innovative construction techniques will be required.

Offsite construction played a critical role in Ilona Rose House. The less time required putting together components on site the better, and solutions such as offsite assembled unitised façade systems and offsite fabricated brick slip panels gave our contractor and client greater certainty on time and cost. The superior quality control afforded offsite is great for architects as it means fewer snags and greater consistency.

The challenge for suppliers such as IG will be to continue to innovate and develop their offsite techniques to match the evolving requirements of the construction industry.

FIND OUT MORE



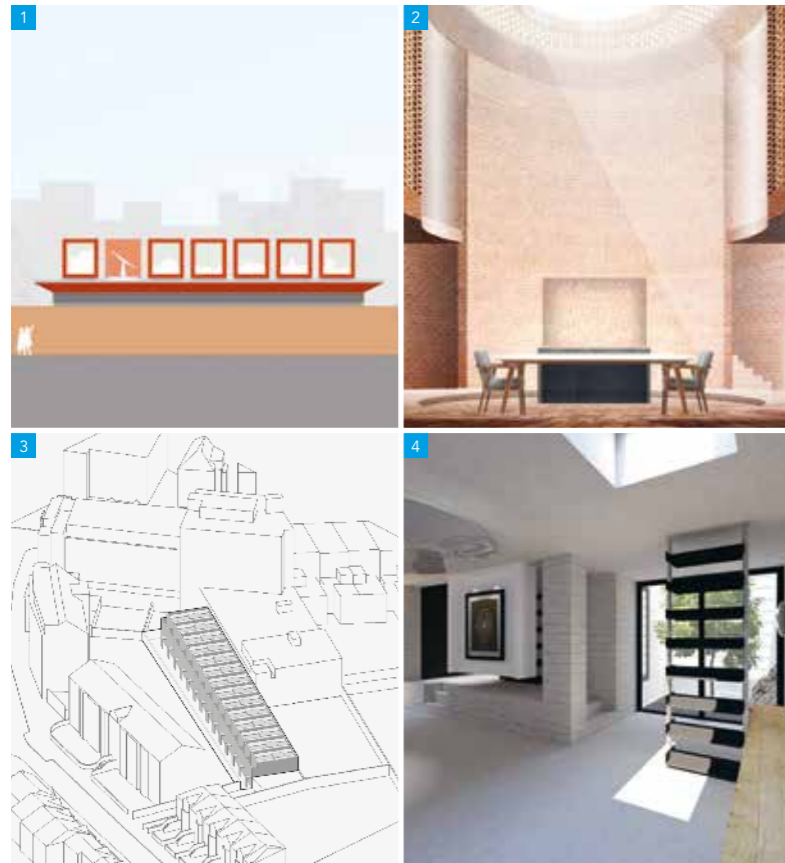
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FEATURE SHAPED BY KEYLITE ARCHITECTS COMPETITION

A 'Light Roof' of Tomorrow

Architects and their remarkable projects, shaped by daylight.

Keylite, in partnership with the RIBA Journal, ran a competition to challenge architects to utilise natural light to create a remarkable interior.



1 Blink House (Stephen Macbean) 2 The Cloister (Sorava Somarathne)
3 Back to Back (Matthew Bate & Julian Hurley) 4 Invisible House (Martin Gruenanger)

The competition tasked entrants to design a generous family home for a compact site that was enclosed on all sides, so that the only access to daylight is from the sky directly above.

Entrants were asked to select an existing or imagined site – a backland plot, a courtyard at the centre of a larger building, or the ground beneath a private garden and manipulate the roof and section to achieve a quantity and quality of daylight suited to all parts of domestic life: sleeping, working, cooking and eating, relaxing and entertaining.

The house had to be arranged over more than one storey. Atria and internal lightwells could be used, but should not account for more than 20% of the site area.

Consideration was to be given to how views of the sky and changing weather might enrich the experience of living in the house.

We are thrilled with the response to our Light Roof competition in collaboration with the RIBA Journal. The variety and originality of the entries have made it an engaging and insightful project to be involved with.

Colin Wells, Head of Technical, Keylite

The idea of a Light Roof home of tomorrow encompasses what Keylite stands for when it comes to innovation in daylighting. It was this aspect of innovation in particular that Keylite wanted to draw out of the entries, and each contribution displayed ingenuity and challenged the constraints of what's considered the norm when it comes to design.

The competition resulted in a series of extremely sophisticated themes and thoughts that Keylite will draw on when it comes to product design and development.

Through the involvement of the judging panel in this competition, Keylite has started to consider what the 'rooflight of tomorrow' may need to be, to satisfy the needs of the buildings of the future.

WINNER

Blink House Stephen Macbean

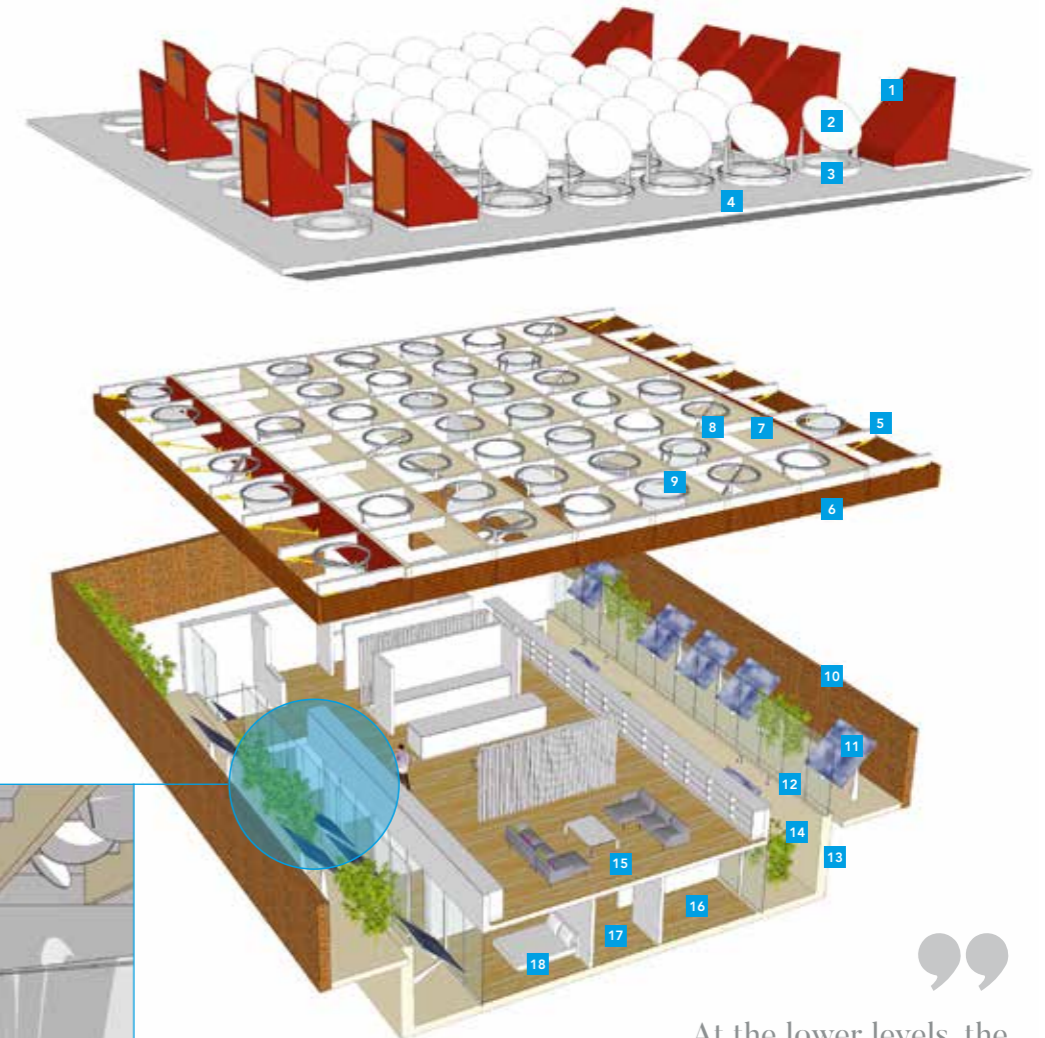
Obscured on all sides by a high brick wall, a busy road, a narrow lane, and a park, Stephen Macbean's winning entry, Blink House, uses ingenious rooflights to direct its occupants' vision skyward.

- 1 Periscope cowl
- 2 Adjustable light baffle
- 3 Circular skylight
- 4 Flat roof
- 5 Cantilevered edge beam
- 6 Continuous louvre
- 7 Primary beam
- 8 Secondary beam
- 9 Internal light baffles incorporating LED lighting
- 10 Existing brick wall
- 11 Windowscope in linear garden
- 12 Full height triple glazing
- 13 Retaining wall
- 14 Internal lightwell with lower windowscopes
- 15 Open plan living room deck
- 16 Ensuite bathroom
- 17 Dressing area
- 18 Bedroom

Macbean's design had a 'confidence about technology' noted the judges.

Macbean's proposal involves excavating the basement, providing two linear, top-lit gardens at the east and west, and creating a grid structure on the roof at 2.4m centres. This grid forms part of Blink House's 'fantastical' lighting solution: a combination of skylights, reflective baffles, and 'windowscopes' – sculptural periscopes acting instead of windows to provide horizontal views.

At the lower levels, the periscopic effect is created by large, angled mirrors placed within the linear gardens, offering curated views outwards. On the roof, to the edges of the system of skylights, are mirrors housed in Corten steel-clad insulated cowls.



At the lower levels, the periscopic effect is created by large, angled mirrors placed within the linear gardens.

FEATURE SHAPED BY KEYLITE ARCHITECTS COMPETITION



- 1 River Thames
- 2 Lambeth Palace
- 3 Lambeth Road
- 4 Driveway
- 5 Entrance
- 6 Fire escape

COMMENDED

The Cloister

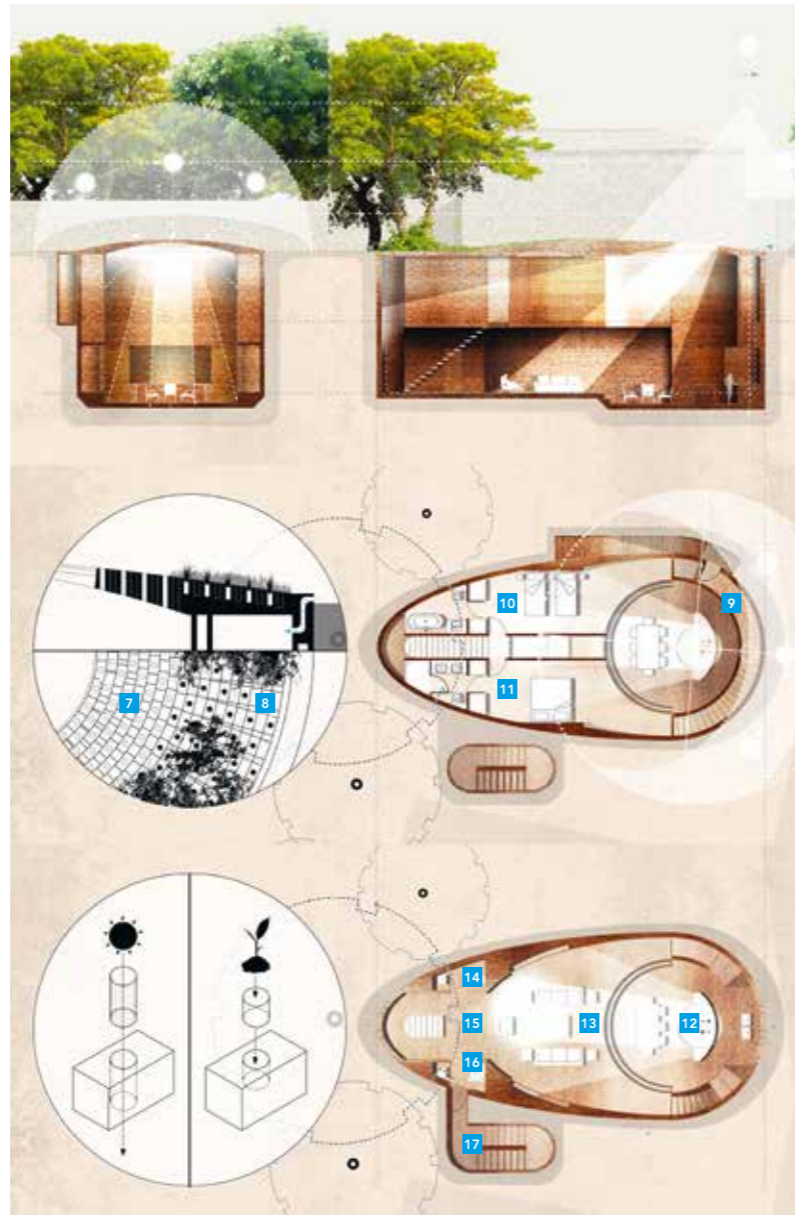
Soraya Somarathne

Influenced by its location on the grounds of Lambeth Palace, Soraya Somarathne's top-lit Cloister offers a meditative and contemplative space for its occupants. The secluded, subterranean residence was admired by the judges for its 'different sensibility' and 'celestial atmosphere'.



There is no outlook but it does not feel claustrophobic.

Brick is the primary material, tying in with the historic surrounding architecture. Somarathne also incorporates building techniques derived from the 'Rohtak dome', a self-supporting shallow brick dome found in the Indian villages of Rohtak, topped by a central skylight. 'The mounded roof gives the design a certain presence,' said Foges. 'In some ways it recalls the Pantheon with its central oculus – there is no outlook but it does not feel claustrophobic'.



- 7 Light tube
- 8 Planter
- 9 Entrance
- 10 Kids' bedroom
- 11 Master bedroom
- 12 Kitchen-diner
- 13 Living room
- 14 WC
- 15 Stair
- 16 Laundry
- 17 Fire escape

COMMENDED

Invisible House

Martin Gruenanger

Martin Gruenanger's Invisible House is an extension to a previous project by Space Group Architects. It doubles the floor area and adds a bedroom, living room, storage space and gym.

Daylight and natural ventilation are provided through a sunken courtyard, carefully positioned walk-on skylights (the roof of the extension is at ground level, abutting the main house) and an abstract ventilation shaft. The interior is finished in fair-faced concrete, lightened by polished stainless-steel fixtures and fittings, which reflect and deflect the natural light.



West-east section. The elongated roof lantern stretching from front to rear is intended to define promenades through the building's key spaces.



The range of materials and unique solutions impressed the judges.

Added to this is a series of reflective sculptural elements, including an amorphous, mirrored ceiling feature, a 'metal waterfall' beneath a skylight and other integrated sculptures.



FIND OUT MORE



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 keyliteroofwindows.com

COMMENDED

Back to Back House

Matthew Bate & Julian Hurley

The competition brief points to the scarcity of straightforward sites in densifying cities,' noted Matthew Bate's project statement. 'We suggest that history has met this challenge before in the form of the terrace house and, following this, the back-to-back house of the industrial revolution.'

His proposition takes a landlocked and overlooked site 'which does not lend itself to traditional building typologies' and turns it into an opportunity to generate affordable housing provision.



The central lightwell can be both inhabited or empty.

Bate updates the problematic 1800s back-to-back format. He addresses issues of poor lighting and ventilation through the use of a long, triangular roof lantern and another large rooflight, positioned above interconnecting multi-level spaces inspired by the Loosian 'raumplan', which challenged the hierarchy of rooms in stacked floors.

People & Places

WITH DAVID COMISKEY

In this series we ask a professional about their favourite building and what inspires them in their role.

Here, we profile David Comiskey, Reader at Belfast School of Architecture and the Built Environment.

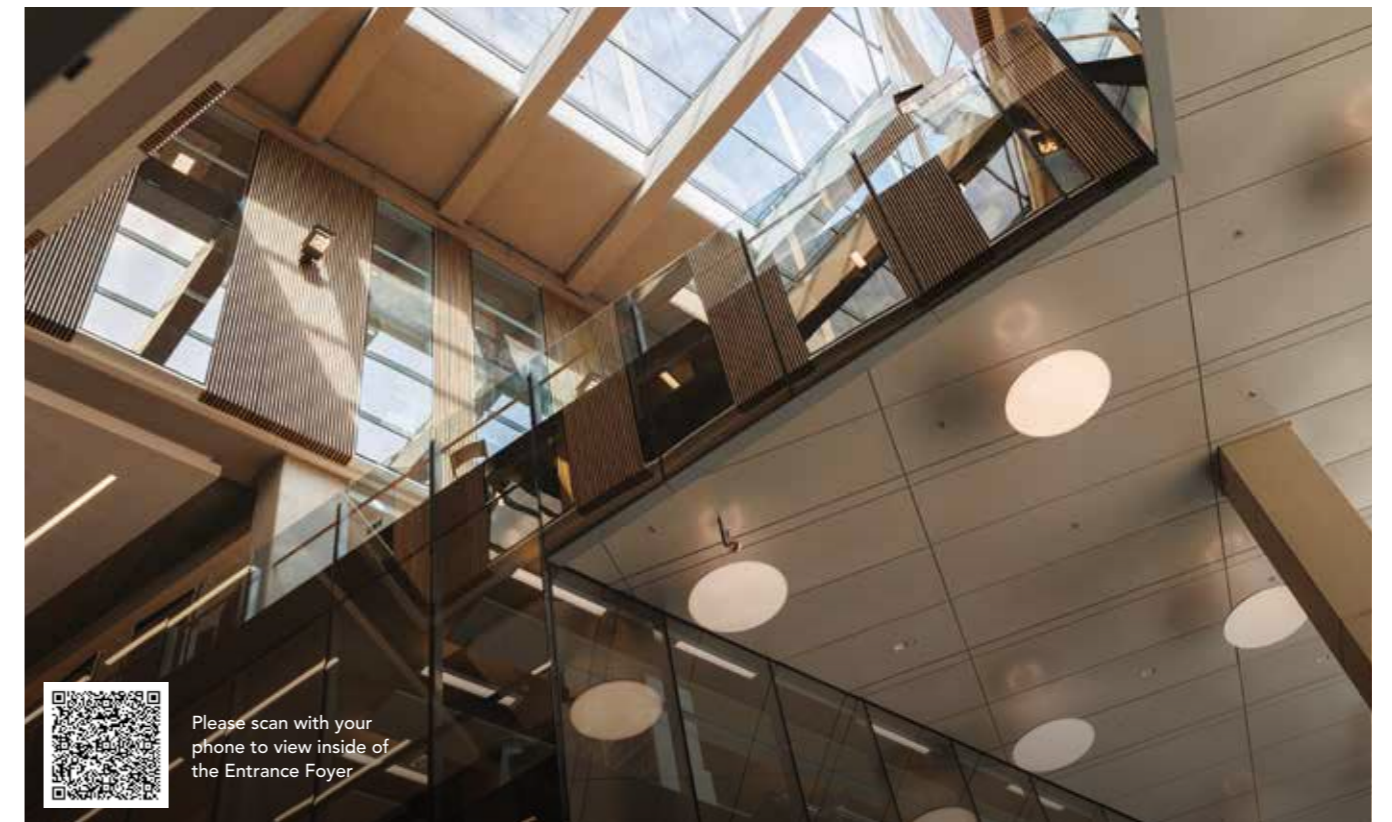
What iconic building has inspired your journey into architectural technology?



We are proud of the strong and longstanding relationship we have developed with the Keystone Group.

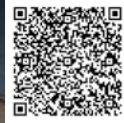
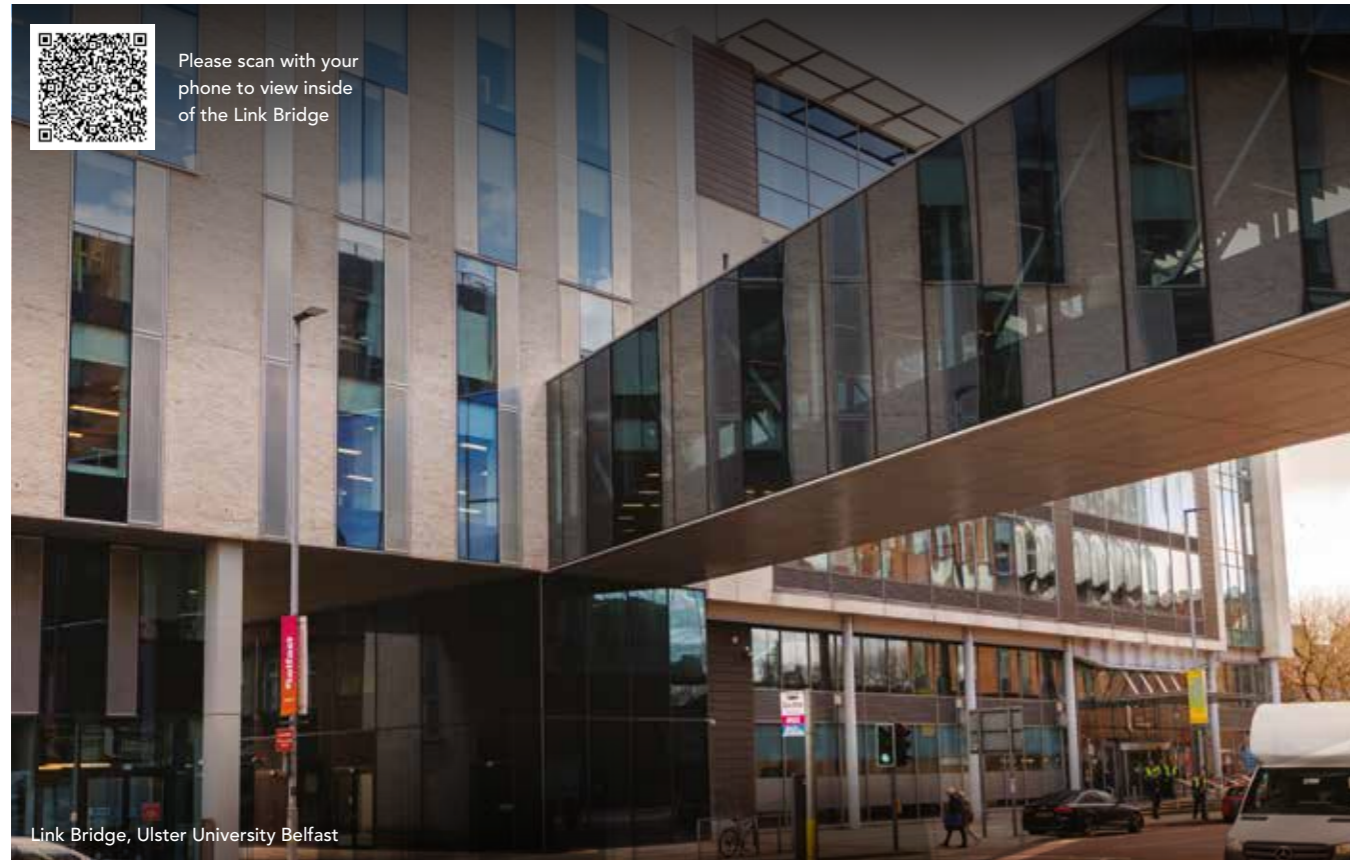
I will take a different angle in answering this question, referring to three projects I feel are notable for different reasons.

Firstly, possibly a relatively unknown scheme located in Darmstadt, Germany. Why? Because it was the first Passive House project. I have chosen this because I feel that the Passive House concept exhibits everything I stand for as a Chartered Architectural Technologist when it comes to building design. A fabric-first approach with an emphasis on building performance and careful consideration of the technical details. Second, is the Autodesk office building in Toronto, Canada, which I have included due to its use of generative design. To me, this is representative of where the industry is heading (or is already at in some cases), and we will continue to see the use of digital processes and technology, data, and AI to help design, construct, operate, and maintain buildings. Lastly, and closer to home, the new Ulster University Belfast Campus. During his recent visit, President Biden described it as "a cathedral of learning", and it is difficult to disagree. I have selected it as it will play an important part in the education of the future leaders of the industry in both Northern Ireland and beyond.



Please scan with your phone to view inside of the Entrance Foyer

INTERVIEW PEOPLE & PLACES



Please scan with your phone to view inside of the Link Bridge

Link Bridge, Ulster University Belfast

Your career journey

My undergraduate degree was in Architectural Technology and Management (ATM) at Ulster University, and I also hold a Masters in BIM & Integrated Design from the University of Salford. I started my professional career in an architectural practice during my placement year and undertook a similar role with a different company post-graduation. My academic career began at Upper Bann Institute (now Southern Regional College) where I was the first Course Director for and led the Foundation Degree in Architectural Technology. I moved to Ulster in 2009 as a Lecturer in Architectural Technology, being promoted to Senior Lecturer and more recently Reader (akin to Associate Professor). I am also proud to be a Chartered Architectural Technologist and Chartered Construction Manager, achieving Fellow status with both institutes. I have been lucky enough to win several awards throughout my academic career, with the highlight being a prestigious National Teaching Fellowship in 2017.

“ We will continue to see the use of digital processes and technology, data, and AI to help design, construct, operate, and maintain buildings.

Life at Ulster University

I know it's a cliché, but every day is different. The morning commute provides me with an opportunity to catch up on emails or chill out to music depending on my mood. It can then be a combination of teaching, teaching preparation, assessment design and marking, research, meetings and civic engagement activity.



I also lead the professional practice (placement) module on the Architectural Technology and Management programme, so engagement with the local industry and visiting students on placement is also part of my role. I am currently preparing content for a module on our new MSc in Digital Construction Analytics & BIM, so things are always busy. I love witnessing the student journey from when they first enter the university, with most being shy and retiring, and watching them blossom into articulate, confident, and competent professionals, the future leaders within the industry. It's also rewarding to meet alumni in later years and hear about the impact they are having on the sector. We are proud of the strong and longstanding relationship we have developed with the Keystone Group and the role our placement students and graduates have played in the continued success of the company.



I love witnessing the student journey from when they first enter the university, with most being shy and retiring, and watching them blossom into articulate, confident, and competent professionals, the future leaders within the industry.



Research Projects

In recent years, my research passion has been anything related to the digital built environment and practical projects which have the potential to make a real-world difference. The ATM programme has built a strong reputation in this area, with students being recognised for their work at the prestigious CIAT AT Awards for the past five consecutive years, claiming the top prize in the Report Category in both 2021 and 2022. Presently, I am working with the Strategic Programme Office at the University on a project they are leading entitled Virtual Campus. The ambition of this project is to aid space familiarisation for both staff and students and to improve the overall university experience. An example of an output from this project can be seen by scanning the QR codes on the images. I am proud that this initiative emanated from a research project from an undergraduate student in the ATM programme.

Shining a light on new regulations

The builders of more than 50% of Britain's new homes, choose Keylite Roof Windows. So just why are more and more people choosing to specify Keylite?

The answer lies in Keylite's patented innovations designed to simplify installation and support the drive for carbon neutral performance.

When it comes to heat loss, one of the biggest issues for specifiers is thermal bridging. A thermal bridge, also called a cold bridge, is an area of a building which has a significantly higher heat transfer (loss) than the surrounding materials. One example of where this would occur is with junctions around roof windows.

Keylite's unique expanding thermal collar provides assurance that the built performance will be the same as that designed. This unique collar is the only built-in failsafe solution on the market today, eliminating the likelihood of human error during installation. To perform effectively, every roof window manufacturer states that their roof windows must be insulated in the area around the frame.

To perform effectively, every roof window manufacturer states that their roof windows must be insulated in the area around the frame and fill the recommended gap between the frame and the timbers of the roof opening to prevent heat escaping and reduce cold bridging. All other roof window manufacturers produce a secondary collar to fill the gap, however, research shows that these are rarely purchased, with up to 97% of those roof windows not having them installed, thus leaving the gap likely to be uninsulated.

Approved Document Part L of the building regulations stipulates that "Gaps in insulation can have a significant impact on heat loss and thermal bypass and create a risk of condensation and mould." Research carried out by BRE concluded that insulation of this gap is essential to prevent the formation of condensation on the interior of the frame.



Research carried out by the BRE concluded that insulation of the gap between the roof window and the timbers of the roof opening is essential to prevent the formation of condensation on the interior of the frame.



Free resources to help with roof window specification

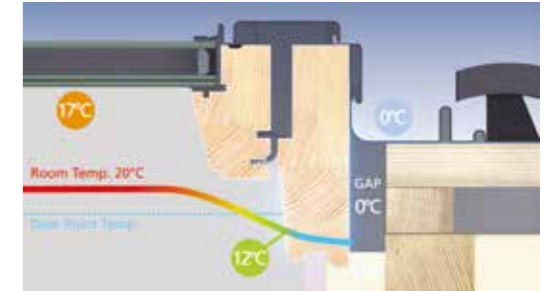
Keylite has created a video advising architects and specifiers on how to choose a quality roof window. Topics covered include thermal performance, solutions for new homes, technical detailing, and Keylite innovations.

In addition, Keylite is offering a free CPD addressing thermal performance in roof windows. With a focus on assured thermal efficiency, the CPD will cover condensation and cold bridging, heat loss in roof windows, and specification support.

To watch the video, book a CPD presentation, or upload architectural plans, please visit keyliterateofwindows.com/architects

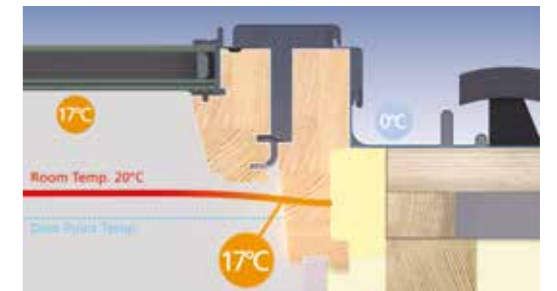
When the external air temperature drops, the un-insulated frame cools as per section 1.

SECTION 1



In our example with 20°C internal and 0°C external, the internal surface temperature of the frame, cooled by the uninsulated gap has dropped to 12°C which is below "the dew point". In these conditions, the warm interior air can condense and form moisture on the cold frame. Which overtime can develop into mould. This issue is increasingly common as modern homes become more airtight in line with building regulations.

SECTION 2



Keylite's solution insulates the gap and helps prevent the formation of condensation on the frame by maintaining the internal surface temperature above 'the dew point'. Section 2 highlights how the internal surface on the timber is now 17°C, 40% higher than with the uninsulated gap.

FIND OUT MORE



Technical Helpline
01283 200 158
keyliterateofwindows.com

The Heart of Design Beats with Collaboration

WITH
ROBIN DRYER

CDC Studio maintains a creative and collaborative approach to architecture. We speak with Director, Robin Dryer for an insight into their unique style and studio ethos.



Why architecture?

I grew up in 1980's in the industrial Milltown of Burnley. There was little architectural inspiration and my introduction to architecture came through studying Art at school. I always enjoyed sketching and problem-solving and with my A-level subjects, this led to 5 years at Newcastle University. It was my part 1 experience which opened my eyes to what architects do, and the importance of creating joy out of every job, even the small ones. This sentiment has stuck with me ever since. I had several years in London where as a young architect I had the responsibility of designing Pizza Express restaurants. London was vibrant and exciting, offering much to my architectural development. Moving to Cambridge, I spent my formative architectural years at RMJM. During this time I was very fortunate to design and deliver a range of projects including a nightclub, law court, nursery school, teaching facilities, and car parks.



I enjoyed working on such a variety of building typologies and this continues today. I left my role as Associate to set up what is now CDC Studio with a colleague in 2011. The team has grown to ten and is now led by myself and my wife and partner Delphine.



INTERVIEW ARCHITECTS IN FOCUS

What is the ethos at CDC Studio?

We identify our practice as a studio. This reflects the creative and collaborative approach we foster; we have cultivated a group of skilled architects and assistants who work collaboratively on bespoke solutions to all our briefs. We hold regular design charrettes, each member of our team bringing their own talents and personalities into each project. We are all committed to making quality contributions to the built environment through thoughtful and inspiring architecture.

Each project is treated as individual, creating bespoke solutions. We don't have a house style, and though no two projects are the same we have a lot of repeat clients. This is I think a real testament to our process; both in our design solutions and the way we communicate our knowledge and ideas along the way.

What type of work does CDC Studio handle?

A bit of everything! The studio has a lot of experience in the education and housing sector and we're excited by any brief that presents a new challenge for us.



The Rising Path project, Cambridgeshire

We happily take on projects in a wide range of scales, both new builds and refurbishments. Recently we have completed an invited competition for a new school in Cambridgeshire whilst at the same time submitting the design and planning application for an 80-unit housing development. We also always have a number of design led smaller works from extensions to school refurbishments that we see through to completion, running alongside at any one time.



Each project is treated as individual, creating bespoke solutions. We don't have a house style, and though no two projects are the same we have a lot of repeat clients.

Which projects stand out for you?

THE RISING PATH

It was a privilege to be asked to design a structure within the special and beautiful setting of the Botanic Gardens in Cambridge. The Rising Path has an elegant curving form providing a framework for furthering understanding of the Systematic Beds, as well as defining a stimulating new space in the Garden. We carefully considered the materiality of the structure, using principally Accoya engineered wood and galvanised steel, and CDC won the GAGA Architecture Award.

A BUILDING MADE FOR IDEAS

We created the masterplan and design for a new sport and learning building for an independent school in central Cambridge. A challenging, compact site set within an urban context and conservation area. We created an exciting landmark for students that was state-of-the-art yet respectful to its surroundings.

A basement sports hall sits beneath teaching spaces, topped with a rooftop MUGA. The street side elevation is stepped with deep reveals and framed views inviting engagement with the wider community. This was our first time working with CLT and we revelled in learning all about it. We have since used this knowledge on proposals to repurpose an existing CLT building into a school.

GABLES

We are so proud of the success of this project as it presented us with a great number of challenges; Creating a new build home within a conservation area on a site straddling both the village framework and greenbelt, whose existing poorly conditioned barn buildings were identified during pre app stages as non-heritage assets.

Our solution was to create a home of part rebuilt barn and part contemporary structure, the form of the existing thatch barn is extended in kind, creating an irregular roof that folds out into the landscape. Our clients were extremely happy with the end result and the project was nominated for and won multiple awards.



It's great there are always new things to learn. In particular, there are so many new tools relating to environmental and sustainable design, which is intrinsic to all our work. In the past year, CDC produced our first Whole Life Carbon Assessment and Circular Economy Statement a completely new task for our team. I'm also always on the lookout for new innovative products, particularly sustainable and environmentally friendly solutions and I have a soft spot for Scandinavian design.

Where do you get your architectural kicks from?

I love being an architect and running our studio, it can be tough, and you learn to take joy in different ways. Sometimes solving problems with a structural engineer, or receiving planning permission against the odds. There is always a kick when you see your creation built and your client enjoying their building. Inspiration comes from many places and I always keep an open mind.

How can architecture create communities?

I believe that places should have identity and housing in particular. Neighbourhoods should be created to have distinct, meaningful spaces encouraging residents to identify with both their homes and each other.

It's also important to foster a reciprocal relationship between people and their environment; design that has human and environmental well-being at its heart creates communities that care for the space around them. There are so many ways of doing this, from arranging buildings on the site in a way that creates natural communal spaces to individual homes being comfortable because of their energy efficiency. We have been fortunate on many of our projects to collaborate with talented landscape architects. Looking at Placemaking, and the areas between the buildings offer the real potential for creating communities.



Gables project, Cambridgeshire

How do you imagine architecture of the future?

I can only see architecture of the future becoming more eclectic, varied, and specific to settings and climates. The idea that there could be an international style is for the history books.

Creative Freedom

As pressure mounts on architects and specifiers to conform to universally popular, standard designs, the profession remains steadfast in its belief that individuality is crucial in building design.

For those seeking creative freedom, Keystone Lintels offers a range of specialised products and services to cater to any project's needs.

Keystone is a renowned construction products manufacturer that prides itself on innovation and providing products and services with distinctive character. To maintain its position as an industry leader, the company strives to meet the bespoke visions of architects and specifiers by creating buildings that boast unique beauty and design.

For 30 years Keystone Lintels has been producing special lintels that enable the inclusion of architectural features, complex shapes, and focal points that embody true individuality in any project. >



Disraeli Park, Buckinghamshire



St Clements Heights, London

FULL & SEGMENTAL ARCH LINTELS

Full and Segmental Arch Lintels are a common feature on buildings such as school houses or train stations, and they can also be used on bullseye or circular arch window designs. In our Station Approach project, we integrated stone segmental arches with brick feature arches to produce captivating focal points that seamlessly blended traditional and contemporary design elements.

GOTHIC, PARABOLIC & VENETIAN ARCH LINTELS

For buildings that truly stand out Gothic, Parabolic and Venetian Arch Lintels are used to create eclectic, stand out features. Gothic Arch Lintels are often used in churches or temples, and Venetian Arch Lintels can be spotted as feature windows for master bedrooms in private dwellings. They add the wow-factor and inject individuality into any project.

BOW LINTELS

Bow Lintels are truly striking, they are arched on plan as opposed to on elevation and can often be seen on many living room bay designs. Whilst they achieve a unique, cohesive aesthetic capable of accommodating curved structures, they are engineered to withstand unusual loading conditions, ensuring the quality is not compromised.

In unison with its special range of Lintels, Keystone provides a host of complementary services that include free scheduling and specification, customised design and on-hand technical expertise.

The range is a source of inspiration for various design visions and is accompanied by a personalised service that ensures sound engineering and exceptional quality at every stage.

No limitations to creativity

The Keystone lintels range encompasses a comprehensive array of lintel solutions that cater to even the most innovative and imaginative building designs.

CORNER LINTELS

Corner Lintels offer an effective solution for architects and specifiers seeking to enhance the spaciousness of a room and introduce a greater amount of natural light into a modern design. Although commonly utilised in extensions, Corner Lintels are also frequently stacked on the side units of a block of flats to imbue a contemporary ambience.

SPLAYED BAY & SQUARE BAY LINTELS

Splayed Bay and Square Bay Lintels can achieve a timeless blend of classic and contemporary elegance. Its symmetrical design creates a sense of space and natural light which can add illumination and provide a panoramic view. Often used for Victorian design features, the brick feature bays, which are manufactured off-site creates an intimate space as exemplified in our project Disraeli Park pictured left.

APEX LINTELS

To enhance a comfortable and inviting living space with abundant natural light, Large Apex Lintels are the perfect solution for accommodating impressive glazed openings. In our St Clements Heights project pictured above, the striking Apex Lintel added dramatic height and character to the front elevation of the property, creating high bedroom ceilings for an added touch of luxury.

FIND OUT MORE



Technical Helpline
01283 200 150
keystonelintels.com

PRODUCT INNOVATION IMPROVING EFFICIENCY AT LONDON AFFORDABLE HOUSING DEVELOPMENT



Shuttleworth Road London

Improving Efficiencies, Quality, and exceeding Building Regulations

Architect
ECD Architects

Main Contractor
Wates Group

Location
Battersea, London

Products Used
Non-Combustible Cavity Trays (NCCT)
Corner Units
Weeps

Overview

Conveniently located in the heart of Wandsworth, between Clapham Junction and Battersea, new residential developments have been built on Shuttleworth Road. The homes have been constructed under Wandsworth London Borough Council's 'Housing for All' regeneration scheme, which provides 62 social rented homes, and nine shared ownership apartments, varying from one to three bedrooms. The new-build homes have been made to adaptable standards of accessibility, with eight homes being fully wheelchair accessible. All the homes have been prioritised for those who live and work in the borough, with 60% of the homes being affordable.

Working alongside contractor Wates and ECD Architects on the project, Keyfix supplied 1,300 metres of Non-Combustible Cavity Trays (NCCT), 413 corner units, and 3,351 Weeps to protect the new-build project and increase its longevity.

Challenge

The project presented a significant challenge for the client, given that the inset dog-leg window detail resulted in unconventional specifications. Keyfix overcame the challenge by visiting the site in advance of the product's arrival, allowing the team to pre-empt any issues. Keyfix provided a complete technical review including a full mark-up plan, which included elevations and sections. The team was then able to adapt the Non-combustible Cavity Trays to the layout of the building. Additionally, the pre-formed corner units on this project were at obtuse angles as opposed to the standard 90-degree angle. The technical provisions made by Keyfix, prior to the product delivery, allowed for the rapid installation of pre-formed corner units.

Solution

The Keyfix NCCT was specified by the client, as they required an A1 fire-rated product on this high-rise project. The Keyfix NCCT was an obvious choice as it is made to exceed the minimum standards set out in ADB (Approved Document B), and will never contribute to fire loading in the building.

The NCCT was also selected due to the innovative, self-supporting design of the tray and the ease of installation. The Keyfix NCCT allows for a fast and efficient installation, as it does not need to be attached to the inner concrete structure. In contrast to other cavity tray systems, the Keyfix NCCT requires no additional fixings, sealants, or onsite fabrication by the brickwork contractor.

This is very beneficial onsite, as it significantly reduces installation time when compared to traditional DPC.

This pioneering cavity tray system is installed in the outer leaf with no connection to the inner skin, therefore, it does not create a thermal bridge, improving thermal performance and allowing the homeowner to save on energy costs. This also benefits the homeowner by safeguarding the building against issues associated with differential movement.



We were greatly impressed by Keyfix's performance on this project. Keyfix carried out a full markup and had seen issues onsite before the product was delivered, so they were able to modify the NCCT system to suit the building layout. We were especially impressed with Keyfix's innovation in modifying the trays to accommodate the inset dog-leg window detail on this project.



Tom Hooper-Smith
Project Director
Wates Group

FIND OUT MORE



Technical Helpline
028 8676 7508
keyfix.com

The Canal Turn Nottingham

Architect

Jestico & Whiles

Main Contractor

Sir Robert McAlpine

Brickwork Contractor

Lee Marley Brickwork

Location

Nottingham, England

Products Used

Welded Masonry Support
B.O.S.S. (Brick on Soffit System)
& Brick Slip Arches

Awards

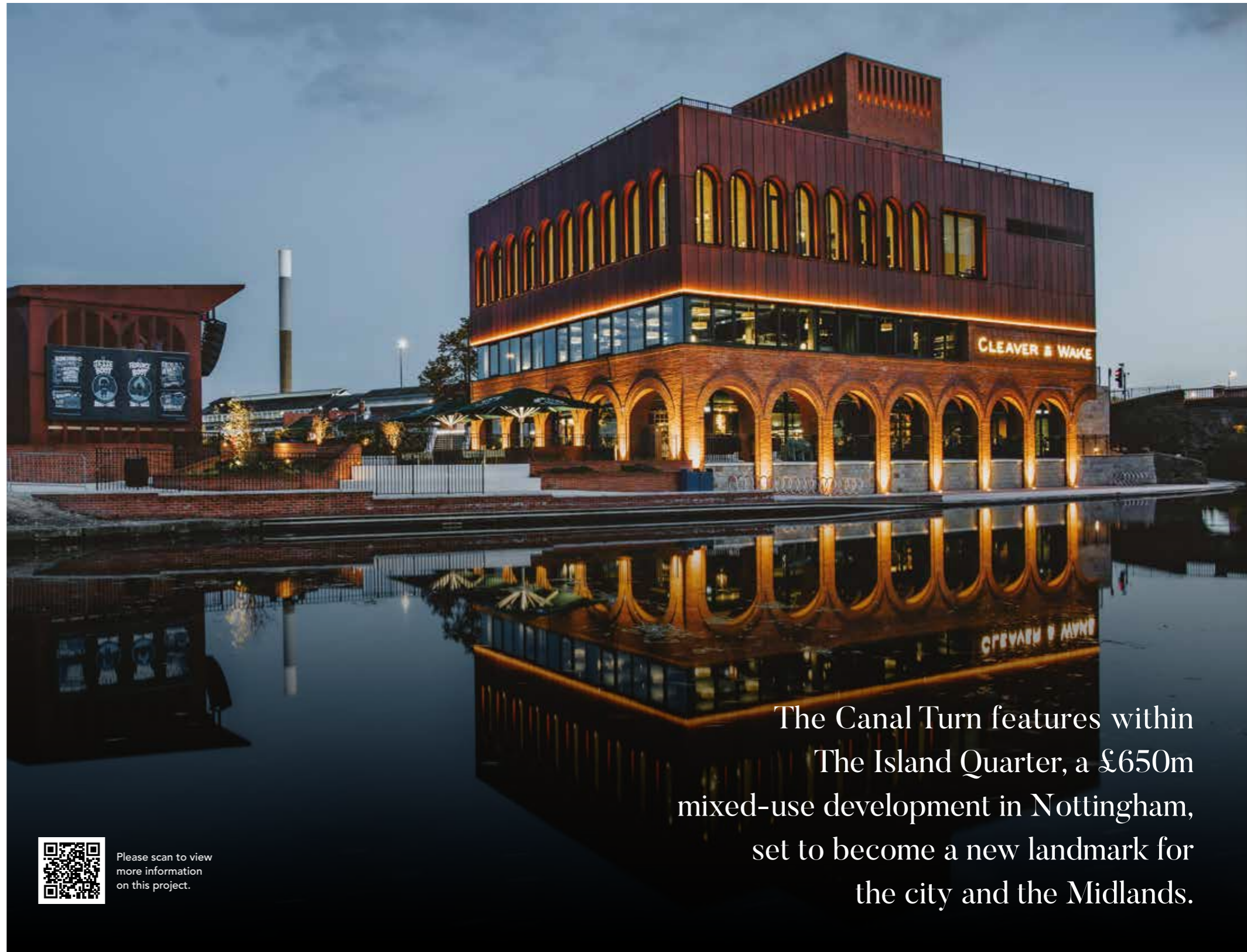
Shortlisted for Place-making
Project of the Year - Midlands
Residential Property Awards 2023



Overview

Featuring 20 restaurants, bars and cafés, the three-storey, canal-side destination is located within a 36-acre nature-filled landscape that has been commercially re-imagined, with designers using the site’s Victorian train station and warehouse buildings as inspiration.

The nearby historic Lace Market, the epicentre of the world’s lace industry during the 19th century and now a protected heritage area, was also an influence on the Island Quarter’s architectural form.



The Canal Turn features within The Island Quarter, a £650m mixed-use development in Nottingham, set to become a new landmark for the city and the Midlands.



Please scan to view more information on this project.

PRODUCT INNOVATION CANALSIDE ARCH EXCELLENCE

The Island Quarter is 'setting the scene for something really different' for city centre mixed-use developments.

For this high-profile, complex project, IG Masonry Support was selected to design and manufacture 19 Brick Slip Arches that met the structural and aesthetic requirements of the three-story building which will be home to the site's myriad social attractions.



“ Due to their size, the arches were delivered separately and once on site, were carefully craned towards the top of the building.

Two large Brick Slip Arches were required for the fourth level of the building. The bearing and size of these arches presented a logistical challenge for the project.

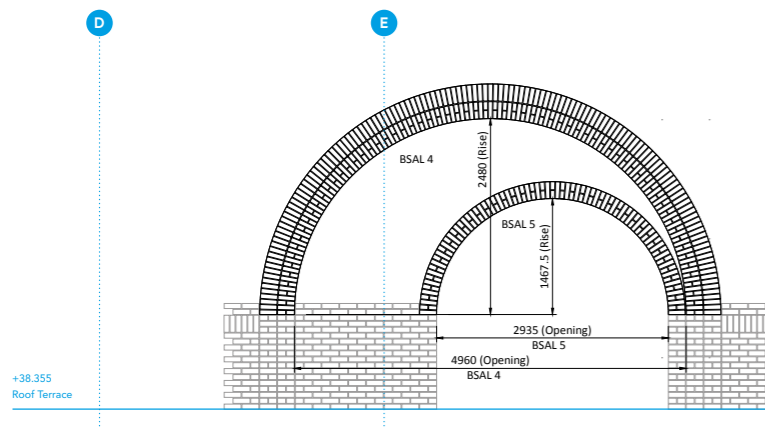


Challenge

IG Masonry Support was selected for The Canal Turn project following its successful completion of similarly complex projects in conjunction with brickwork contractor, Lee Marley Brickwork. The brief was to design and manufacture 19 Brick Slip Arches, 17 at ground level, and two at the fourth floor level. The greatest challenge in this respect was coordinating the brickwork configuration of two deep-soffit arches, which were to meet at a 90-degree angle at the structure's ground-level corner.

In addition, the siting and size of two large arches at the building's uppermost level provided a potential issue.

South West Elevation of Fourth Level Brick Slip Arches

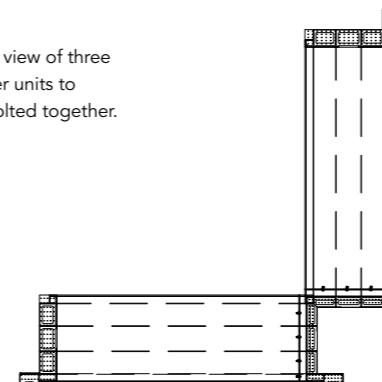


Solution

The experience and expertise of IG Masonry Support's technical team was essential to ensuring the 90-degree corner arches' unique formation complemented the surrounding building work. Following extensive research and detailed assessments, a Brick Slip Arch system involving three units was designed and embedded within the structure's corner section, thus providing a suitable base for the arches to meet at the correct angle.

In terms of the logistical operation to install the two large arches on the building's fourth level, IG Masonry Support required engagement with Nottingham City Council to implement appropriate road closures during their delivery. Due to their size, the arches were delivered separately and once on site, were carefully craned towards the top of the building. This process was particularly challenging, as there was little space (half-metre) for the contractor to install the structures into the correct position.

Three corner units were to be bolted together.



“ The Island Quarter is 'setting the scene for something really different' for city centre mixed-used developments.

Thanks to the design skills of IG Masonry Support's technical team in supplying a solution that was bespoke and precision-made for this application, the corner arches were an identical fit. They provided the impressive building with a unique feature and an aesthetically-pleasing finish.

The prefabricated nature of the arches not only guaranteed their controlled and high-quality manufacture, it led to a more rapid and cost-effective installation, with the units being delivered straight to site for immediate implementation. This outcome would not have been possible with traditional brickwork and may have delayed The Island Quarter's scheduled and much-anticipated opening in late 2022.



The Ultimate Brick Slip Cladding System

WITH JOHN DUFFIN



Borne out of Keystone’s heritage in developing innovative brick slip soffits, lintels, masonry support, and structural steel, Managing Director, John Duffin, tells us how Keywall is reaching new heights in Brick Slip Rain Screen Cladding Systems.

What is Keywall?

Lighter than traditional masonry, Keywall is a full factory-fabricated Brick Slip Rain Screen Cladding System comprising a stainless steel frame enables the panels to span slab-to-slab. The system has been successfully tested in accordance with the CWCT Standard Test Methods for Building Envelope 2005 and is A1 fire-rated.

Brick slips are mechanically fixed to each Keywall panel and pre-pointed in a quality controlled factory to exact requirements and delivered ready to install onsite for our clients.



PRODUCT INNOVATION KEYWALL

Where did the idea of this system originate from?

Keywall panels have been innovated from our sister company IG Masonry Support's proven B.O.S.S. (Brick on Soffit System) technology. We want to provide specifiers with the ability to achieve the design-led beauty of a brick-faced façade that spans from floor slab to floor slab and provides contractors with an efficient construction method to deliver a fully weather-proofed building earlier in the build programme.

environment to exact tolerances while adhering to strict quality assurance procedures, it is compatible with any brick type and cavity width as per the clients' specifications. Keywall features a unique patented fixing bracket which provides tolerances in 3 axis allowing for simple onsite adjustment. The unique 'hook-on' design of the bracket means the façade installation process has been streamlined, resulting in less demand on crane time and reduction in the the overall project timeline.

Tell us more about the benefits of Keywall

We foresee many benefits of the system with number one being the enablement of much quicker build times, with the systems being delivered directly to site, ready to be craned into position. Other important benefits include design flexibility as we can incorporate any brick type and bond pattern to fulfil the design specification of a building, increased thermal performance due to our slab-to-slab design and >

Can you highlight some of the key technical components of Keywall?

Keywall is the complete offsite solution. Manufactured in a controlled factory



FIND OUT MORE

Keywall Technical Helpline
028 8676 7508

The Keywall Brickslip Rain Screen Cladding System has been successfully tested in accordance with BS 8414-2: 2020.

Keywall is the complete offsite solution. Manufactured in a controlled factory environment to exact tolerances while adhering to strict quality assurance procedures.

enhanced weathering defence, as the system does not rely on "helping hands" fixed to the internal SFS, puncturing the sheathing board and membrane everytime. Lightweight units enable simpler installation and adjustability onsite. There are of course many more benefits and we anticipate developing many others as we begin to work with clients and learn from their experience with our product.

What lies ahead for Keywall in the next 6-12 months?

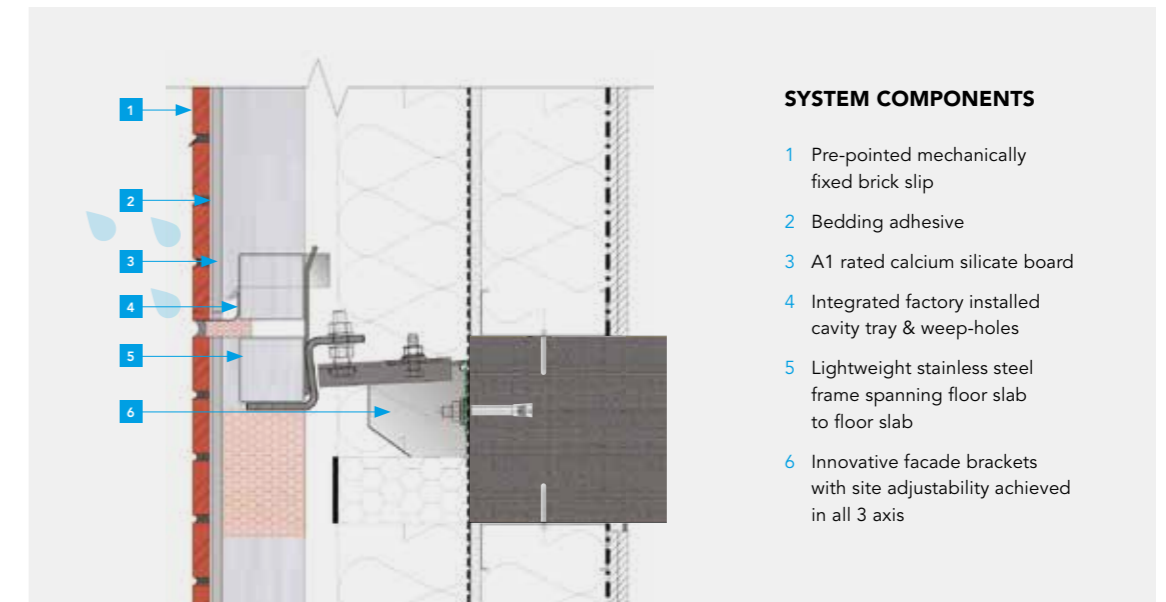
From our early days working with some of the country's largest contractors and developers, we have already secured several projects in both GB and Ireland.

Ranging from small "parapet type" panels to hide rooftop plant of approx. 400m² in Dublin, to working on 1200m² of localised panels required

for restricted access areas on a London project for one of the UK's largest developers, the Keywall team has grown in size and technical expertise.

These experiences have been essential in securing Keywall's involvement in two of our largest projects to date, both with blue chip developers in the London high-rise market which have propelled our 2023 production pipeline to circa 4500m² and our design and order pipeline for 2024 is already well in excess of double that.

Developed with the brickwork contractor at its heart, the versatility of the Keywall system has also been proposed in the design of one of the UK premier developments on Bishops Avenue, London, where it is being used to simplify the buildability of intricate brickwork bond and terracotta tile detailing in conjunction with hand laid traditional brickwork and IG Masonry Support's B.O.S.S. (Brick on Soffit System) units.



SYSTEM COMPONENTS

- 1 Pre-pointed mechanically fixed brick slip
- 2 Bedding adhesive
- 3 A1 rated calcium silicate board
- 4 Integrated factory installed cavity tray & weep-holes
- 5 Lightweight stainless steel frame spanning floor slab to floor slab
- 6 Innovative facade brackets with site adjustability achieved in all 3 axis

PRODUCT INNOVATION OFFSITE CASE STUDIES

ES Global Triangular Roof Cassettes



The ABBA Arena is currently located at London's Queen Elizabeth Park. ES Global appointed Stufish Entertainment Architects to carry out the design on this project.




The majority of the structure consists of mass timber and a steel frame. The arena has been designed so it can be dismantled and relocated to another location at a later date. It can welcome up to 3000 people. The dome shaped roof structure is made up of 270 triangular cassettes, spanning between 0.5m and 12m. These were manufactured using I Joists, OSB, mineral wool insulation and acoustic separation foam, washers and fixings.

The prefabricated roof cassettes form the acoustic timber dome over the steel frame theatre building.

The Dome has a diameter of 70m, and the building reaches an impressive height of 25.5m. The cassettes are designed to keep the sound inside the building.

The three layer floating outer skin was developed by an independent acoustician and our in-house design team to prevent any 'sound leakage' from the venue - third party verification of the completed building has confirmed 'the show sound was literally inaudible from the test positions'. Engineered Joists for the roof cassettes were cut to size by Crendon Timber Engineering, then manufactured into cassettes by Timber Innovations and Wyckham Blackwell in their Solihull Offsite Manufacturing and Assembly Facilities.



-  **Contractor**
ES Global
-  **Site**
ABBA Arena
London
-  **Architect**
Stufish Entertainment
Architects



FIND OUT MORE



Technical Helpline
01675 442233
wyckhamblackwell.co.uk



Self-build SIP Wall & Roof System

Fuggles Pocket is a unique self-build detached, two-storey private residential dwelling situated in a 20-acre field in rural Worcestershire. Being a challenging site to gain planning permission on, due to its open countryside surroundings, an exceptionally high-quality design was required to unlock the site.

Following permission being granted for the architect's ambitious design, inspired by the hop-growing industry of the region, the clients then needed to be able to deliver it.




In essence, the design consists of three hop kilns set at different levels and angles to each other and ranging in height from 11.7m to 13.1m. In addition to realising the ambitious concept the design needed to meet a number of other criteria:

- 1 High levels of insulation and airtightness in excess of current Building Regulations to ensure the building had high sustainability credentials
- 2 Sourced from renewable materials procured locally
- 3 The homeowners were to live in the caravan throughout the duration of the build so a short as possible construction period was required

4 The site is very exposed (on top of a hill in open countryside with 360-degree views and weather).

The architect was concerned about the stability and safety of the building during the construction process due to the site being windy on occasions. Their thoughts quickly turned to timber to answer points 1-3 and then to prefabricated timber to deal with points 4 and 5. SIPs seemed to offer the perfect fit for this project in this particular location and so it proved to be.

The clients chose Glosford SIPs and found their quotation competitive and within budget. Work was commissioned and many meetings with Glosford and the Architect then followed to enable the final construction drawings to be completed. Glosford's scope included the 172mm Kingspan TEK SIP wall and roof system along with all internal partitions and floors together with all the structural steel framing required.

-  **Contractor**
Self-builder
-  **Site**
Fuggles Pocket
Worcestershire
-  **Architect**
Benbow Architects

FIND OUT MORE



Technical Helpline
01432 842 999
glosfordsips.co.uk



HMS in partnership with Torus Group Mansard Smartroof System with Timber Dormers



Contractor
HMS in partnership with Torus Group



Site
Allerton Road
Fire & Police Station



Architect
Halsall Lloyd Partnership

The redevelopment and conversion of an iconic Liverpool Fire and Police station into an affordable housing development required a modern method of construction that offered buildability, speed of construction and cost certainty.

PRODUCT INNOVATION OFFSITE CASE STUDIES

Smartroof's offsite manufactured modular 'room in roof' system met the challenge, playing a significant part in the creation of this greener, more sustainable building scheme.

Immortalised in the Beatles' song Penny Lane, Allerton Fire and Police Station has been redeveloped by contractor HMS with the former Fire Station being transformed into two 3-bedroom and three 4-bedroom townhouses, two 3-bedroom semi-detached homes, all of which are available via shared ownership. The Torus owned development will also see the conversion of the former police station into a 40-unit independent living scheme for over 55s, with all apartments available via affordable rent. A key design feature is the mansard roof which required an offsite manufactured 'room in roof' solution with the contractor specifying Smartroof as the company able to deliver and meet their requirements.

Whilst a Smartroof system typically averages 100m² in size, the contractor HMS required a roof 25 times larger at 2,500m². Initially this raised concerns for the Smartroof team in terms of logistics of the roof within the scale of the project.

“ We worked very closely with the HMS team and also developed a great working relationship with the architect and engineers in order to overcome these design challenges. Such was the success of the system and our involvement, our Smartroof solution saved 16 weeks compared to if HMS used traditional methods of construction.



Tom Wright
Design &
Technical Director
Smartroof

The old police station was a refurb and new build, which added challenges for the Smartroof team due to different slab levels throughout the building. The team also had to work with the existing structure of the building, such as steel that was not previously considered. This resulted in numerous site visits to reconfigure the design to make it possible. Smartroof's nationwide contracts managers are site based and work closely with Site/Project Managers.

The advantage of the Smartroof system is that everything is produced in a factory control environment so the challenges experienced at this redevelopment can be overcome in the factory, instead of operatives working at height when a roof is being built.

The Smartroof system is a complete roof solution, designed to offer housebuilders and developers a way to exploit a new home's full potential by creating rooms in roofs. Comprising a series of factory produced panels incorporating insulated roof panels, spandrel wall panels, dormers, roof windows, decorative chimneys, soffit and fascia, it is delivered to site and craned into place.



FIND OUT MORE



Technical Helpline
01283 200 199
smartroof.co.uk



The system has many benefits – less waste, better control of quality, safer to install and meets the industry's demand for solutions that allow us to build better quality homes, more efficiently.

The controlled environment of the Smartroof offsite fabrication facility meant the technical team could achieve the mansard roof design with millimetre precision both in terms of cutting and fabrication.

Manufactured at the Smartroof factory in Derbyshire, the prefabricated 'room in roof' systems were then delivered to the Allerton site, craned into place and installed by the Smartroof team.

At a time when housebuilders need to embrace new and faster methods of construction as well as comply with more stringent energy efficiency demands, the offsite fabrication of the roofs at the Allerton Police Station redevelopment offered huge

“ Smartroof and their team offered a complete solution that not only saved us time but embedded greener technologies into the heart of our development programme and one which is now leading the way for how we use innovative build techniques going forward.



John Barrow
Construction
Director
HMS

benefits in terms of health and safety, speed of construction and quality control.

Smartroof has fabricated and installed a complex and high-performance roofing system which has enabled the developer Torus to reduce costs and build times as well as health and safety risks on site. The room in roof system has also ensured this iconic police station development remains on track for completion in the spring of 2023.



Our **A1 non-combustible cavity trays** have the **metal** to keep tall buildings safe and dry

Keyfix: Champions of Best Practice



Only A1 will do.

Far exceeding the requirements of Approved Doc B, **Keyfix A1 fire rated, non-combustible cavity trays** achieve optimal fire safety, allowing you to champion best practice in the design and construction of fire resilient tall buildings.

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Find out what makes us champions at: www.keyfix.com

Keyfix®