UNILIN

Walls
Floors
Roofs
Soffit

Case Studies



Roof :
FR/ALU

Floor :
XT/PR_UF







DISCOVERY
HUB





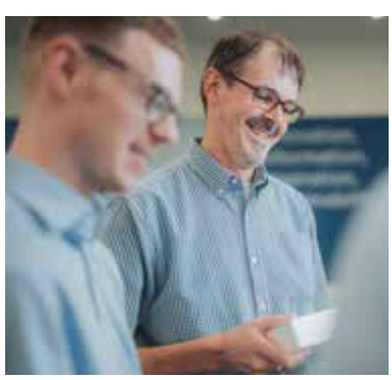


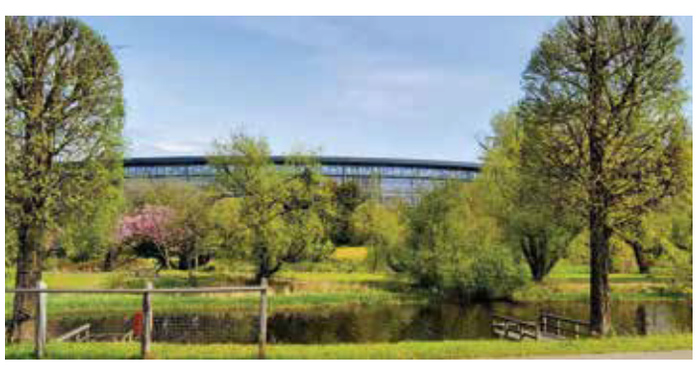












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Working with Industry

Identifying new ways of doing business.

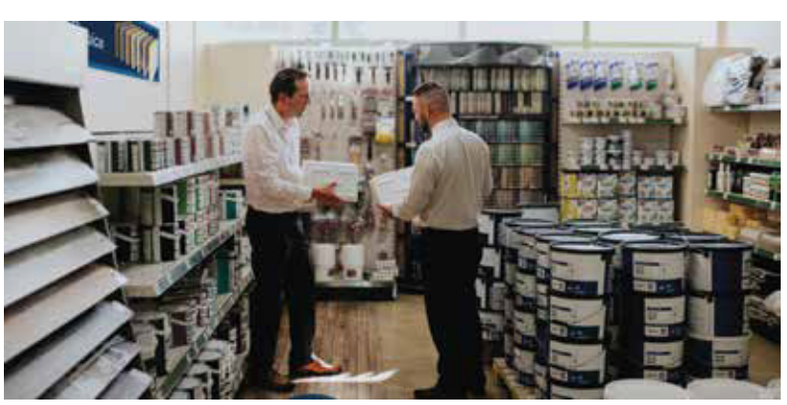
Customers are at the core of our business. We deliberately bring our frontline sales, specification and technical teams together to help fuel our partners' business growth and to help them work towards creating a truly sustainable business.

In the Irish and UK markets, this partnership is of particular importance and we are committed to developing these relationships further.

Achieving low energy design in construction requires us all to think differently and we share our indepth knowledge through our regional technical and specification teams.

Realising the opportunities presented within a circular system will not be easy. Strong alliances and co-operation between manufacturers, the supply chain, designers and contractors will be required. At Unilin Insulation, we are aware of the critical importance of improving our own products and operations to minimise our own impact, but also how we can contribute to improving the circularity of construction as an industry.

We commit to work with our industry partners in traditional and modular construction sectors to develop products and solutions to improve circularity in both materials and buildings.



ECO360

Product with Purpose

We commit to continuously improve product sustainability to meet Passive or nZEB standards. Our new enhanced product range will allow for the stringent embodied carbon targets of the Climate Challenge 2030 to be met.

Supply Chain

Throughout our entire supply chain, we work with companies who share our transparency and sustainability values. As part of the Unilin Group, we monitor suppliers to ensure that they meet ethical operations standards. This includes ensuring fair and safe working conditions, the provision of fundamental labour rights, responsible sourcing, along with fair operating practices.

Compliance

Progress with our own sustainability improvements will be fully visible with regular updates as we move towards science-based targets. Unilin Insulation product performances will be declared under the CPA CCPI (Code for Construction Product Information) and we will work with third party bodies to provide clear and concise information for those we do business with.

Case Studies

Real Projects. Real Impact.

At Unilin Insulation, we believe that every project tells a story. Our insulation solutions don't just improve buildings they create healthier, more efficient spaces for people to live, work and thrive.

By partnering with architects, builders and homeowners, we bring sustainability and performance to life across diverse projects.

We are proud to share case studies that highlight the measurable impact of our solutions. From lowering carbon emissions to enhancing comfort and long-term energy savings.



Building Better

At Unilin, our ethos of 'More than Insulation'becomes apparent through our solutions.

Every project we deliver contributes to healthier homes, efficient workplaces and more sustainable communities. Through our case studies, we showcase how innovation in insulation can deliver meaningful results.

We partner with homeowners, architects, contractors and local authorities to meet ambitious energy targets while improving comfort and wellbeing.

These stories are proof that sustainable design is achievable at every scale.

Driving Energy Performance

From single-family homes to large scale developments, our insulation systems have helped projects achieve significant reductions in energy use and carbon emissions.

Across Ireland and the UK, customers are seeing lower heating bills, improved air quality and long-term performance.

Building for future generations

We work with our partners throughout the business to make more environmentally sensitive choices.

We pledge to work together to improve the sustainability of our building projects. At Unilin Insulation, we are dedicated to promoting and implementing environmental awareness within the construction sector by sharing our learning with industry and through our educational material.

We provide resources for designers to understand, allowing those to implement energy performances beyond building regulation standards. Our UK and Ireland innovation centres help construction professionals understand the principles of specifying and achieving onsite, best practice insulation standards. Visitors get to experience honest, uncomplicated explanations of issues along with examples of best practice of installation and compliance.



ERNE CAMPUS

THE WORLD'S LARGEST PASSIVE HOUSE PREMIUM BUILDING

Unilin Insulation's range of insulation products for walls, floors and roofs helped achieve record-breaking energy efficiency for this new build education hub.

Not only the world's first educational building to achieve Passive House Premium standards, the new campus was confirmed by the Passive House Institute as the world's largest building of 'premium' status.

Designed by Hamilton Architects and constructed by local firm Tracey Brothers, the immense 8,200 m2 project was also the first UK building to achieve both Passive House Premium and BREEAM outstanding accreditations.



Building type:

Educational Campus

Location:

Co. Fermanagh

Client:

South West College

Contractor:

Tracey Brothers

Architect:

Hamilton Architects

Completion Date:

2021





Designed by Hamilton Architects, the campus was constructed by local firm Tracey Brothers Ltd and accommodates over 800 full-time students, 2000 part-time students and 120 staff.

The extensive new four storey curved building replaces a 1971 constructed building with a poor energy efficiency rating (band 'D') with colossal fuel costs, with around 100,000 litres of oil being used annually. From this low base, the bar was set extremely high in the race for Passive House Premium status.



Unilin Insulation Expertise

A sustainable goal of this magnitude requires commitment from all parties and Unilin Insulation's Technical Team engaged with project architects, contractors and installers across the extensive build project to ensure the ambitious project demands could be fulfilled. With a huge emphasis on air tightness and the mitigation of thermal bridging at every juncture, Unilin Insulation's technical team engaged at design stage to ensure specification of suitable products throughout every element of the building.

The minimisation of cold bridging in the structural steel frame was of particular concern, and Unilin Insulation's technical advisors carried our rigorous Y-Value calculations to overcome this challenge at design stage.

Air tightness tests were also carried out at pre-construction stage to trial design and workmanship. Every professional involved in the project was trained in the importance of fine detailing to achieve the desired standards. When it came to specification of insulation materials, Unilin Insulation's extensive range of under floor, framing and flat roof solutions combined to achieve the required results.

Onsite training and toolbox talks were held to ensure no gap developed between design and as-built.

ALFOLD GARDENS

WINNER OF HOUSING DESIGN AWARDS ‘MASTERPLAN AWARD 2020’

An architecturally acclaimed development of 56 two, three, four and five bedroom homes on the former 7-acre site of Alfold Garden Centre. The development was purposely designed to provide an elusive village feel.

A contemporary addition to the historic Surrey village of Cranleigh, it provides the highest standards of energy efficiency through advanced technology and the latest fabric efficient materials. With a huge emphasis on air tightness and the mitigation of thermal bridging at every juncture, Unilin Insulation’s technical team engaged at design stage to ensure specification of suitable products throughout every element of the building.

Fabric First design was of particular focus in this project, and Unilin’s technical advisors carried out various calculations including U-Values and condensation risk analysis.

Product Specification:

Floors: ECO/MA (0.11 W/m2K)
Walls: Cavitytherm360 (0.13 W/m2K)
Roof: ECO/MA (0.13 W/m2K)

Building type:

Residential Housing

Location:

Cranleigh, Surrey, UK

Contractor:

Q Development

Architect:

John Pardey Architects







AN GARRÁN

IBP Pride of Place Award Winner 2023

Unilin Insulation partnered with Waterford City & County Council in delivering An Garrán. Our ECO360 range of insulation products for walls and floors helped achieve A-rated, energy-efficient new builds for Waterford City & County Council's social housing development in Tramore.

The project comprises 50 housing units with a mix of one, two and three-bedroom homes, including accessible units for disabled residents.

Designed by EML Architects, the project was constructed by local firm Nevin Construction and accommodates over 105 residents.

The new development ties into the first phase using consistent materials, architectural style, and landscaping.

The project specifications included using ECO360 MA in the floors and Cavitytherm 360, a bio-enhanced composite in the walls both of which have a Thermal Conductivity of 0.020 (W/mK).

Residents from Phase One were nominated in the Urban Neighbourhood category at the IPB Pride of Place Awards in 2023







Building type:

Social Housing

Location:

Co.Waterford

Client:

Waterford City County Council

Contractor:

Nevin Construction

Architect:

eml Architects

UNILIN

Reduce by Design

ACTION ON EMBODIED CARBON

ECO360

BIO-ENHANCED PIR INSULATION

Our ECO360 Range sees pioneering environmental improvements in the manufacturing, delivery and use of PIR insulation.

- Bio-enhanced formulation
- Part of a design solution to achieve RIBA, FHH, LETI & RIAI targets
- Halogen free formulation
- Improved thermal performance as low as 0.020 W/mK
- Bio-degradable packaging materials
- Verified EPD available



HIGH THERMAL EFFICIENCY

LOW EMBODIED CARBON

LETI RIAI UK GBC Member IGBC IRISH GREEN BUILDING COUNCIL ConstructZERO

VICTORIAN HOUSE

SUPERIOR THERMAL PERFORMANCE MEETS PROJECTS STANDARDS FOR SUSTAINABILITY & COMFORT

There were various challenges on the project including the search for a responsible way to deal with ventilation and airtightness. Significant structural changes were needed with everything removed except the stairs, three walls and the upstairs floorboards.

The floors had Unilin Insulation's XT/PR_UF floor insulation installed along with membranes and damp proof courses along with the construction of a timber frame to encase the existing building.

The contractors rebuilt the side back wall to allow for the cantilever to support the corner unit and constructed a cavity wall extension with Unilin Insulation's CavityTherm full fill insulation system. The house has triple glazed windows and two wood-burning stoves.

The build followed passive house principles resulting in an improvement in the building energy rating (BER) from a G (before the build) which jumped to an A3.



Building Type:

Residential Housing

Client:

Private Homeowner

Contractor:

Doyson Construction

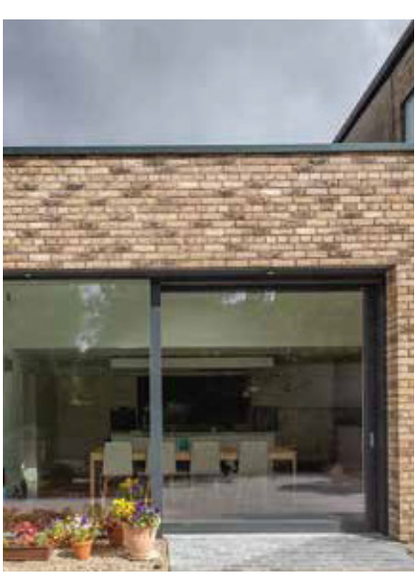
Architect:

Brendan O'Connor

Images:

Paul Tierney Photography





DARTRY

LOW ENERGY, LIGHT-FILLED FAMILY HOME AFTER EXTENSIVE REFURBISHMENT

Winner of the 2022 ‘RIAI Architecture Award for Sustainability’ and the 2022 ‘Towards Net Zero Ireland Construction Awards’ in the Refurbishment Category, this South Dublin suburban project was an extensive refurbishment of a 1970s dwelling into a smartly designed, low energy, light filled family home.



Product Specification:

Floors: XT/PR_UF

Building type:

Residential Housing

Location:

Co.Dublin

Client:

Private Homeowner

Contractor:

Leopardstown Construction

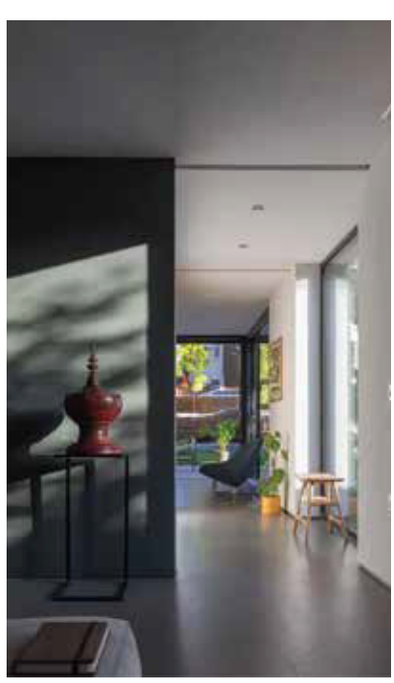
Architect:

Peter Nickels Architects

Images:

Andrew Campion Photography







The project achieved the EnerPHit standard which provides a Passive-oriented set of requirements for retrofits. EnerPHit is the ultimate standard in energy efficiency for renovation projects and offers approximately the same benefits as offers the retrofit equivalent to the new build Passive House certification. The owners have experienced a significant uplift in comfort and energy economy, as well as the reduction in emissions.

There were a number of technical challenges involved, such as the dig out of the old lobby and the reinforcement of the back and middle walls to ensure structural integrity. Total demolition was considered, but eventually decided against, as part of the strategy to limit impacts on embodied carbon.

The overall goals were to increase thermal performance, enhanced functionality and an improved building aesthetic while honouring EnerPHit and Passive principles.

These goals were met throughout the entire build and especially in the decision to extend upwards rather than outwards. The decision to add an extra floor improved the building's form factor, allowing the house to achieve EnerPHit's passive-orientated retrofit standard.

Clever placement of windows and lighting means that almost all of the house benefits from the daily sun movements.



MIDLAND HEART

UNILIN

THE VISION

Since its introduction to legislation in 2025, the introduction of the Future Homes Standard (FHS) is one of the most significant changes the housing sector has faced in quite some time. It demands stringent building fabric requirements, a low-carbon form of heating and hot water, and buildings that emit 75%-80% less carbon than under current regulation, Part L 2013.

Project 80 from Midland Heart, with its construction of 12 masonry homes has met these standards three years before the legislation had come into effect. In collaboration with Tricas Construction, Birmingham City University and select industry suppliers like Unilin Insulation, Midland Heart Housing Association's development is the first project of their plan to build 80 homes that meet or exceed the 2025 FHS.

We were selected as the insulation supplier to this first phase of the development. The project's overall aim is to design standard housing using locally sourced labour and to then compare the performance of different methods, materials and technologies to establish the optimum configuration and cost basis. All the time learning from the experience of traditional building to the new regulations using new technologies and processes.





FABRIC FIRST APPROACH

One of the challenges in meeting FHS standards came with the choice of external fabric and the use of a full-fill PIR insulation to meet the 0.13 U-value. The houses are traditional construction, brick and block leaves, with 150mm CavityTherm full-fill wall insulation.

Initially modelled to SAP 2012 to establish a baseline, the plots were then modelled to SAP 2010 with the goal of reaching an 80% C02 emissions reduction which allowed Midland Heart to determine the performance criteria.



Most of the overall specification is consistent in using CavityTherm as the full fill cavity wall insulation system solution. On some plots, the project incorporated differing airtightness levels and ventilation strategies along with various heating and hot water approaches. Maintaining consistent cavities was a challenge so, Unilin Insulation provided onsite training with a series of toolbox talks to ensure the wall cavities were consistent in width and built to best practice standards. This solution's performance characteristics are such that, no matter what heating solutions are installed, the buildings can function as efficiently as possible.

ROSS STREET MEWS

WINNER OF THE RTPI NI "PLANNING EXCELLENCE AWARD" 2025 FOR PLANNING FOR COMMUNITIES

Unilin Insulation's efficient delivery of **CT/PIR Cavitytherm** for built-in full fill PIR wall insulation helped to achieve RTPI Northern Ireland's 'Excellence in Planning for Communities' Award 2025.

Designed by Studio Rogers Architects and constructed by local firm Kelly Brothers, The new development comprises 22 houses, three of which are wheelchair accessible.

This project showcases the perfect blend of thoughtful design and modern living, recreating the charm of Belfast terraces while ensuring a safe, welcoming environment for residents.







Building type:

Residential & Social Housing

Location:

Co. Antrim

Client:

Belfast City Council

Contractor:

Kelly Brothers

Architect:

Studio Rogers Architects

Completion Date:

2024

TOOTING MEADOWS

RIAI Public Choice Award Winner 2020

A combination of Cavitytherm and XtroLiner insulation solutions, as well as a dedicated level of service throughout the build, contributed to a high-end result for this award-winning mixed housing development in the heart of Drogheda, Co. Louth.

The dwelling, which consists of 15 dwellings for families and elderly people, won the Royal Institute of Architects of Ireland's 2020 Public Choice Award, beating off competition from 32 other shortlisted projects.

> **The perfect example of high-quality housing that addresses the country's changing demographics while also creating sustainable neighbourhoods in our towns and villages.**
>
> **Ciaran O'Connor**
> **RIAI President**

Building type:

Residential Housing

Location:

Drogheda, Co.Louth

Client:

North & East Housing Association

Contractor:

Ganson Building & Engineering Contractors Ltd.

Architect:

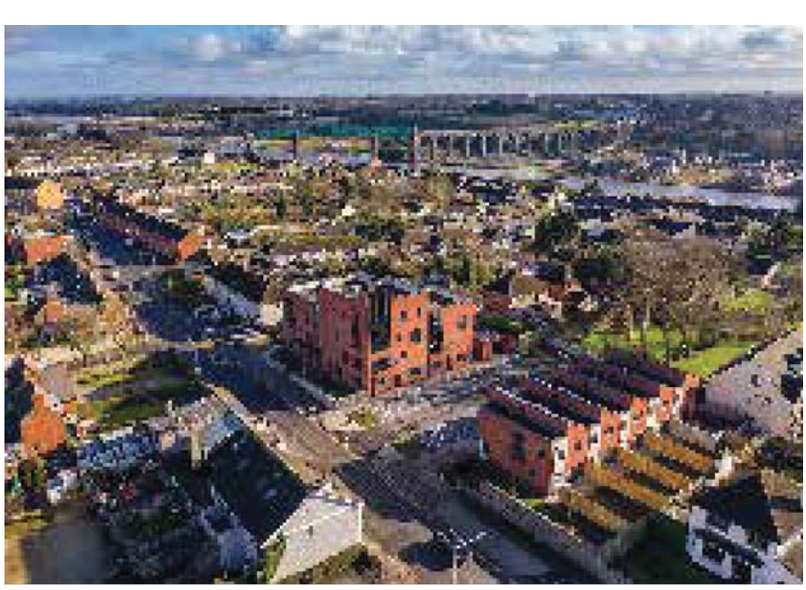
McKevitt King Architects

Completion Date:

2019









Technical Solutions

For wall insulation, Cavitytherm rigid PIR insulation was used, delivering a solution in thermal performance. This continuous wall insulation system has a unique engineered profiled facing which directs any moisture that might penetrate the external wall down the protective facing into the foundation, giving protection from wind driven rain.

At ground floor level Unilin Insulation XT/PR_UF rigid PIR insulation on a radon membrane and a precast concrete slab achieved a U-Value of 0.12 W/mK.

The pitched roof included 75mm/100mm Unilin XO/PR over its rafters with 100mm XtroLiner XO/PR between the rafters, achieving a U-Value of 0.13/0.11 W/m2K.

XtroLiner is a superior performance insulation* with an Agrément declared lamda value of 0.021 W/mK and an enhanced Euroclass C fire rating.

Its aluminium fwwoil provides a textured facing and it is available with engineered jointing to deliver improved Thermal Bridging detailing.

The resulting U-Values achieved thermally efficient homes for the residents on Drogheda's Scarlet Street; a benefit which particularly affects the elderly residents. All of this contributes to the sense of community sought by the client which attracted the praise of RIAI president, Ciaran O'Connor.

The reference to superior performance relates to the product or ranges thermal conductivity or fire performance or a combination of both, when compared to our Thin-R range.

Above and Beyond

As well as providing a range of premium insulation products, Unilin Insulation excelled on their service levels throughout this project.

From an early stage they engaged with architects on U-Value calculations to ensure the project achieved the thermal efficiency desired. Condensation risk reports were provided on specific details throughout the project as well as close working with the local technical specification manager.





ENGLISH MARTYRS

BESPOKE FLAT ROOF INSULATION & DRAINAGE IN A SINGLE SYSTEM

English Martyrs Catholic School & Sixth Form College. The replacement of the roof for English Martyrs School Hartlepool, part of the Bishop Hogarth Catholic Education Trust was a very complex project.

There were different roof shapes including circular and sloped roofs, multiple rooflights, and ventilated penetrations along with the requirement to avoid pooling water. In addition, work had to be carried out during school operating hours which was an additional challenge.

Our Solution:

The supplier was very keen to use Xtrafall as a solution to the complexity of design and the necessity to minimise onsite disruption. Our Xtrafall solution is a customised cut-to-fall scheme. The system comprises of individually engineered pieces, which were installed in accordance with comprehensive laydown mapping to ensure that the overall design intent was achieved. Complex geometrical patterns are pre-formed under controlled factory conditions to provide a technically excellent, cost-effective method of providing an effective flat roof insulation and drainage solution with improved speed of installation.

The project was also supported with a range of exclusive ancillary products, designed to ensure continuous thermal insulation and complete roof drainage.

Building type:

Educational

Location:

Heartpool, UK

Client:

Bishop Hogarth Education Trust

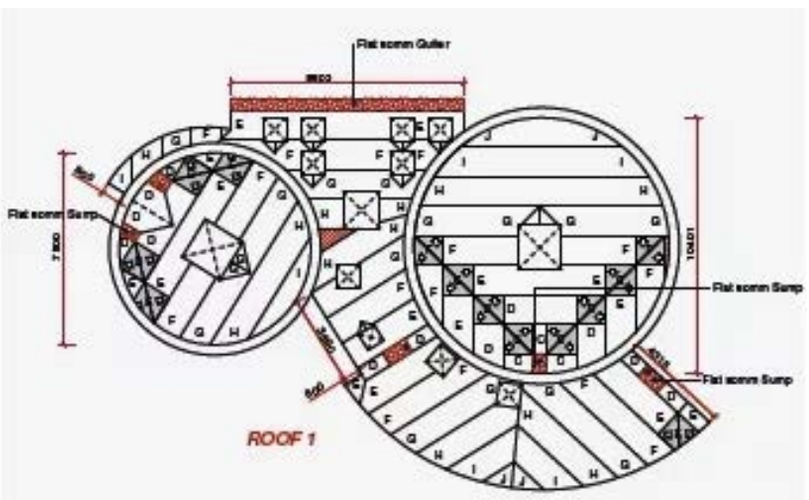
System Supplier:

Tapered Plus

Installer:

Roofclad











CHESTER ZOO

THE UK'S LARGEST ZOO WITH AN UNUSUAL ROOF RECIEVES VITAL RENOVATION

The restaurant has a pavilion-like structure with an unusual roof comprising nine hexagonal peaks linked by seven flat areas.

The Challenge: Water ingress through the old roof had forced shut down of the café multiple times making it necessary to renew the entire buildup. The beautifully designed trapezoidal featured roof was hugely complex.The extremely intricate design process involved SIG as system experts alongside Tapered Plus in designing the cut to fall scheme that achieved the correct U-Value for the new roof.



Unilin Insulation's Solution:

Our TR/MG product is a high performance polyisocyanurate with mineral coated glass facers which is suitable for use below single ply waterproofing systems. It is also compatible with partially bonded built-up felt and many liquid waterproofing systems. In addition, the insulation boards are easy to handle, cut, and secure with insulation adhesive or mechanical fixings. The specifications and quantities met U-Value of 0.18 W/m2K, which is required by the updated Building Regulations Part L. (published in 2021).

Product Specification:

TR/MG

Building type:

Residential Leisure/Hospitality

Location:

Chester, UK

Client:

Chester Zoo

Contractor:

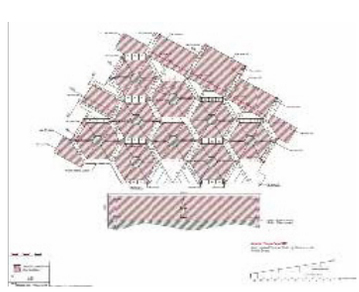
Lester Cladding

Architect:

Hamilton Architects









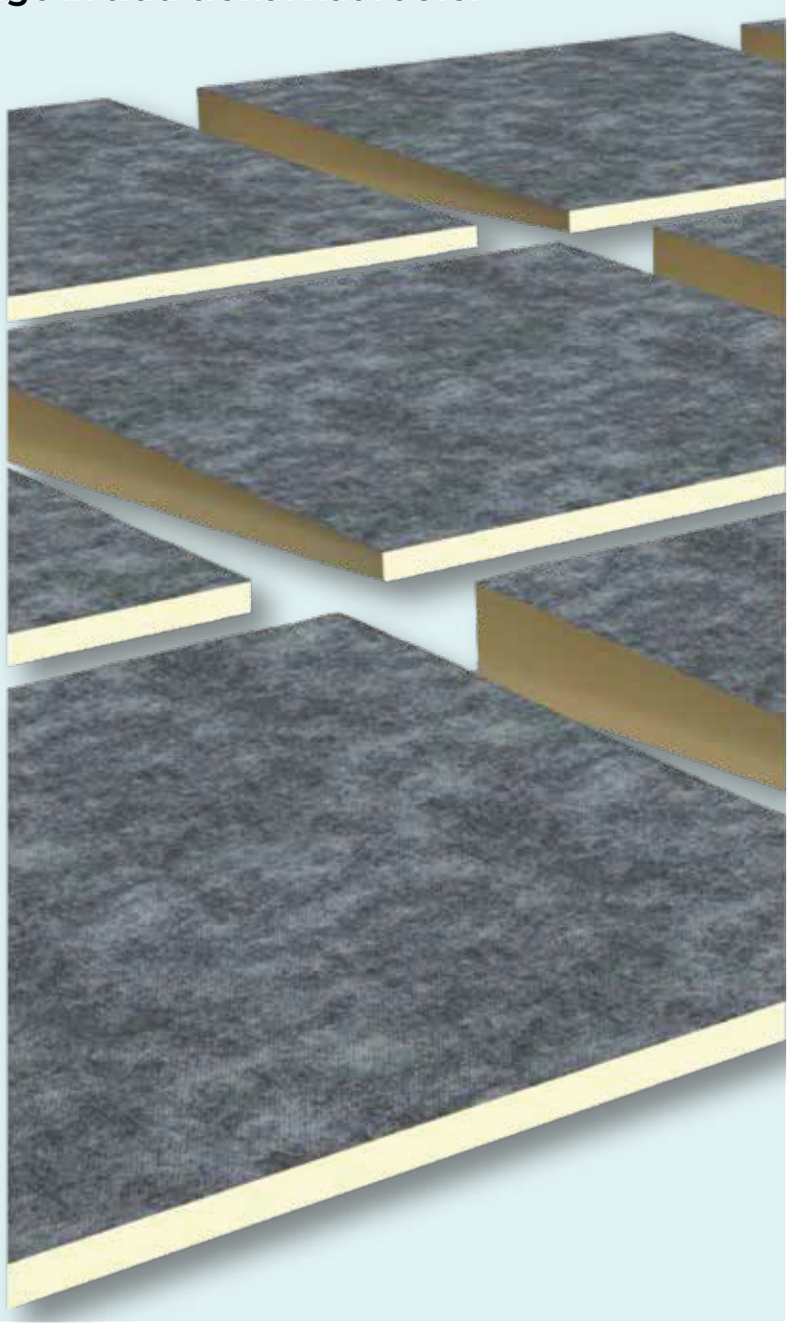
UNILIN

Roofs

XTRAFALL

Tapered Roofing System

The XtraFall Taper System provides the designer and contractor with a precise, technically excellent solution to providing thermal insulation and bespoke drainage on flat roofing that avoids water retention and consequent damage in traditional flat roofs.



Why choose Xtrafall?

- ✓ Flat roof insulation and drainage in a single system
- ✓ A solution to creating drainage falls with effective U-Values
- ✓ Pre-mitred Hips, Valleys and extensive range of accessories
- ✓ Factory bonded components, manufactured to precision tolerances
- ✓ Rigid material, accepting maintenance traffic

For expert advice, contact our technical team on

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UK +44 (0) 371 222 1055

or **discover the range below:**

www.unilininsulation.ie

www.unilininsulation.co.uk

Meet the team who can help with your project

Remote Support & Callback Request

At Unilin Insulation, we value your time and offer flexibility in how you connect with us. Our Callback Request form, available on our website, allows you to choose your preferred method of communication, whether by email or by phone. Once submitted, our team will respond promptly during their working hours.

Our expanded Technical Help Desk provides unrivalled support.

Everyone in our technical team is trained to the highest industry standards of competency in U-Value calculation and condensation risk analysis.

Our team and products are certified in Ireland and the UK through the following certifications bodies:

1. BRE Thermal bridging modelling competency certification
2. NSAI Thermal modelling competency scheme
3. BBA and NSAI certification of the Unilin Insulation boards
4. SAP and DEAP energy assessment

Talk to the Technical Team

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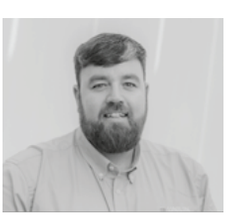
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Conor Sheppard
Technical Advisor



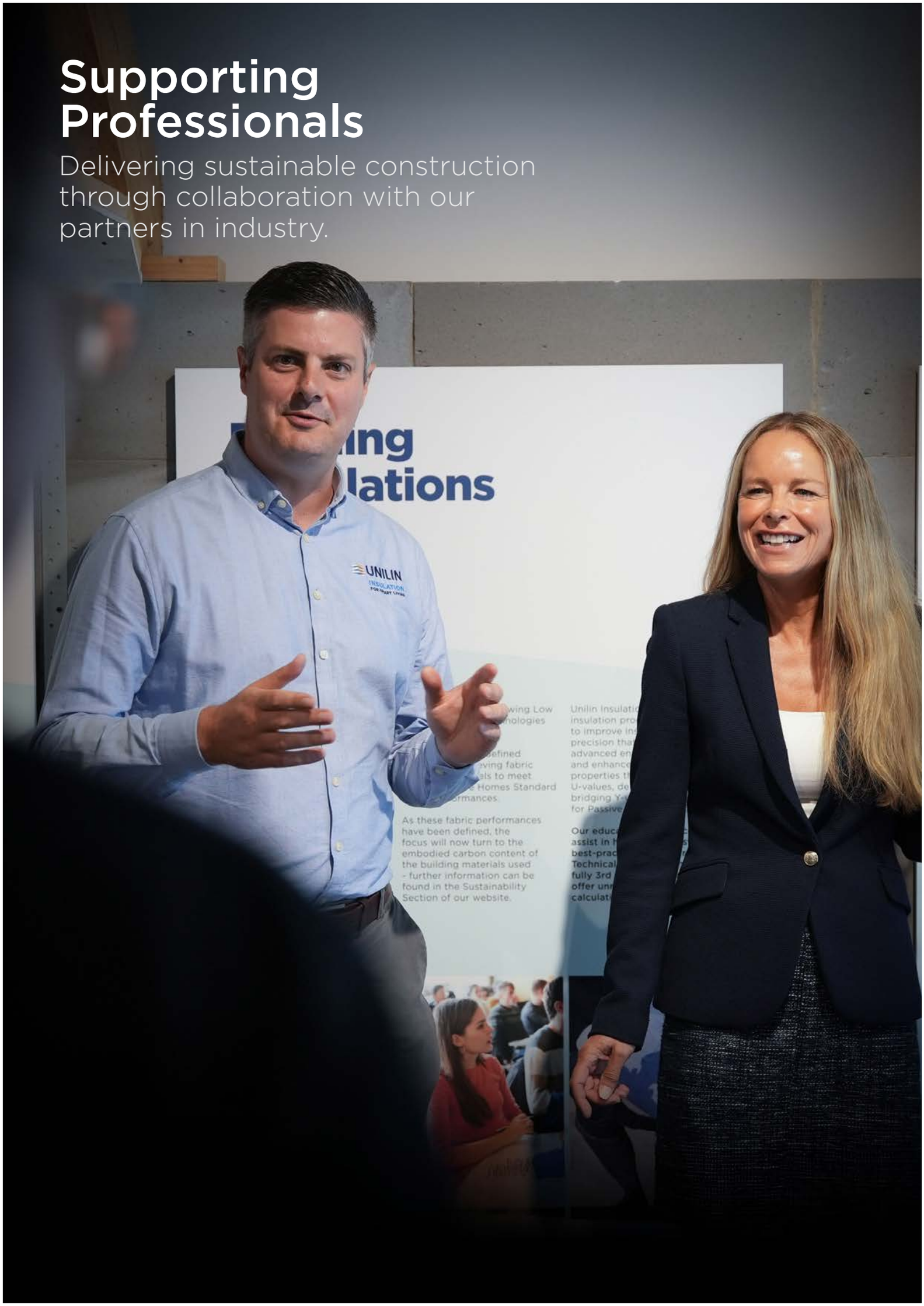
Fiona Prendergast
Technical Advisor



Ian Geraghty
Technical Advisor

Supporting Professionals

Delivering sustainable construction through collaboration with our partners in industry.



Our Dedicated Specification Team

At Unilin Insulation, our external Specification Team work alongside architects, designers and specifiers to ensure that they have the most suitable and up to date specifications for their projects.

With years of industry experience and qualifications, including energy assessment amongst others, our team is equipped to provide a clear, honest and resourceful service to ensure your project gets the best service possible. Whether you are based in the UK or Ireland, you can contact a member of our team to help you with your next project.

UK Specification Team



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