

Introducing the award winning room in roof solution





Housebuilder
Product Awards

Highly Commended



Housebuilder
Product Awards

Winner



Housebuilder Product Awards

Winner



Build It Awards

Winner



Structural Timbe





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Keystone Group
Timber Businesse



Smartroof

Part of the Keystone Group

The history of the Keystone Group has been one of relentless expansion and continuous innovation whilst redefining the meaning of service in the construction industry. With a clear focus on service and innovation the Keystone Group continues to expand and develop its extensive product offering.

Keystone Group History



Keystone Lintels Founded



2001

Keylite Roof Windows Founded





2006

Keystone Acquired IG Lintels



2012

Smartroof Acquired



IG Elements Founded













The Group acquired Smartroof in 2012 to add to its growing portfolio of innovative offsite solutions. The Group recognised that the revolutionary Smartroof system addressed many of the challenges facing housebuilders today; health and safety, speed of construction, skills shortage, cost certainty and product quality.

Smartroof offers the complete room in roof supply and fit package from a single source including insulated panels, spandrels, dormers, roof windows, GRP chimneys, soffit and fascia. This allows the builder to lock in cost certainty as the roof is supplied as a single sub-contracted item at a fixed rate delivered and installed in 1 day.

2015

IG Masonry Support Founded



2017



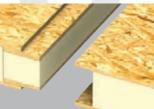
2016

Partnership with Wyckham Blackwell



Partnership with

Timber Innovations







2018 Partnership

with Crendon **Timber Engineering**









4 Key Advantages of the Smartroof System



1 Health & Safety

The major safety benefits over traditional room in roof products include less time spent working at height and erecting scaffolding in confined spaces. Reduced vehicle movements onsite and less manual handling is a further benefit during the install process and the risk associated with falling blockwork from exposed gable walls is eliminated.





2 Cost Certainty

Smartroof can provide the complete roofing package including Roof Panels, Spandrels, Dormers, Roof Windows and plastics to suit the clients requirements. This allows the builder to lock in cost certainty for the roof as this can be supplied as a single sub-contracted item at a fixed rate.





3 Consistent Quality

Smartroof is manufactured in a factory governed by strict quality control procedures. This helps ensure no cold spots in the panels or spandrels that may arise from more traditional construction methods onsite. This is an important factor in the drive to close the performance gap.























4 Speed of Construction

The risk of downtime associated with co-ordinating multiple trades, product deliveries and safe storage of materials from different suppliers for traditional room in roof is completely eliminated with the Smartroof system. This helps free up the house builders skilled trades onsite to speed up the build programme.

Smartroof

Installed in 1 day

8am Smartroof arrives onsite



2pm All roof panels in place



10am Install spandrel panels



4pm Dormers & plastics in place



Traditional Attic Truss

Installed in 10 days

Day 1

Gable and party wall blockwork or timber spandrels.

Day 2

Internal scaffolding and steel purlins.

Day 3

Upper scaffolding and blockwork or top hat spandrels.

Day 4

Attic trusses and cut rafter timbers (2 days).

Day 6

Consider risk of delays due to late deliveries and delay with trades.

Day 7

Roofing membrane & tiling battens.

Day 8

Insulation and vapour barrier (strike internal scaffolding).

Day 9

Bracing and batten sloped ceiling and ceiling joists.

Day 10

Dormers, roof windows, soffit and fascia to eaves and barge.



Smart Money Price Comparison

Smartroof vs Traditional Attic Truss

The Smartroof package delivers major benefits in terms of site safety, thermal performance, consistent quality and speed of construction, all at no extra cost. The Smartroof price comparison ensures a 'like for like' cost comparison when reviewing your Smartroof quotation.

Smartroof has completed an in-depth cost comparison on a pair of townhouses over leaf.

For more details or to request a copy of our full price comparison please call





Non Tangible Considerations

- **01** Up to 2 weeks saving on prelim costs and build programme
- 02 Reduced waste generated onsite
- O3 Speed of build eliminates the need to co-ordinate more trades and material deliveries
- 04 Reduced vehicle movements onsite as a pair of roofs are delivered on 1 lorry
- 05 Storage of attic trusses onsite can be an issue and may require a truss rack increasing costs
- O6 Attic trusses can pose a significant health & safety risk if being transported from storage area to plot

- **07** Reduces demand on forklift as no longer required to lift blocks for gable & party walls
- 08 GRP Dormers, Fascia & Soffit are often over ordered, damaged, cut down or can go missing onsite
- 09 Health & Safety eliminates the time spent working at the leading edge & multiple trades working at height
- 10 Fixed price & cost certainty
- **11** Offsite Smartroof prefabricated systems ensure consistent quality
- 12 Robust details & PEFC certified



Smartroof vs Traditional Attic Truss

Smartroof	1 Day Install
Crane & Skips	*Incl.
External Wall	£2,884
Party Wall	*Incl.
Second Floor Joists	£2,790
Main Roof	£13,385
Dormers, Rooflights & Fascia / Soffit	*Incl.
Internal Works	*Incl.
Total for pair of townhouses	£19,059

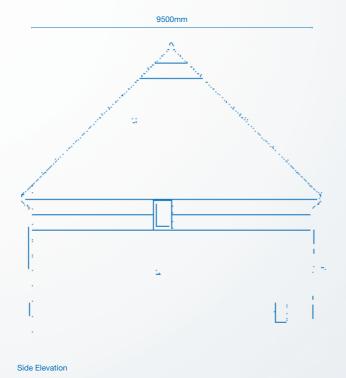
*Incl	- Included in Smartroof nackage	

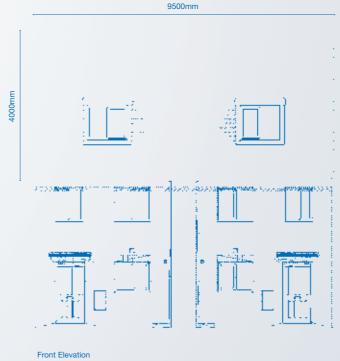
Attic Truss	10 Day Install
Crane & Skips	£856
External Wall	£4,242
Party Wall	£1,985
Second Floor Joists	£0
Main Roof	£8,057
Dormers, Rooflights & Fascia / Soffit	£3,734
Internal Works	£1,628

Total for pair of townhouses



Pair of Townhouses





Enquiry to Install Process





The Smartroof system is now recognised by house builders as the preferred solution for room in roof requirements. The Enquiry to Install process involves 9 simple steps. Our experienced team will guide you through the order process with expert advice every step of the way.

Call-off 6 weeks before delivery







Pre-installation Site Visit

1 week before delivery to ensure plot formation is ready for Smartroof installation



Installation

3 hours per roof (Smartroof App Quality Control sign-off)







Brand New Smartroof





A Gable to Gable Smartroof system incorporates a panelised cassette that can span up to 5.6m in width from spandrel to spandrel.

Wider roofs are detailed on pages 14 – 15.





Where there is a relatively short span (less than 5.6m), our roof panels are installed 'Gable to Gable'. The roof panels are landed horizontally, and are supported by the two gable spandrel panels.

Smartroof utilises a unique patented design and engineering system that facilitates this installation process which has the following benefits:

Vaulted Ceilings

Spanning gable to gable provides flexibility in design and the option to utilise more roof space by incorporating vaulted ceilings. Due to the panels being supported by the two gable ends, there is no requirement for internal support such as glulams / steels / box girders.

Safe Installation

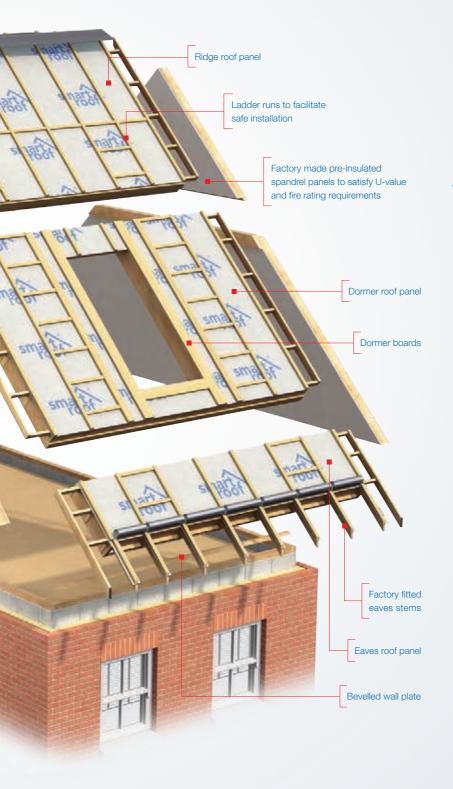
The first roof panels are installed at the eaves which adds extra bracing to the overall structure between spandrels as soon as they are landed.

Speed of Installation

Typically there would only be 3 panels on each side of the roof (eaves panel, dormer or roof window panel and ridge panel), this enables a fast installation with reduced lifts required onsite.

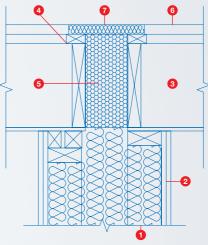






Standard Details

The Smartroof system comes with an approved list of standard details covering all junctions and connections required. Please see below an example of the Smartroof party wall detail.



- 1 38 x 89mm CLS stud insulated spandrels
- 2 2 layers 12.5mm plasterboard
- 3 47 x 222mm TR26 rafters
- 4 25 x 50mm C16 battens
- 5 Cavity closer
- 6 Roofing battens
- **7** Wire reinforced mineral wool between battens (provided by tiler)





The Eaves to Ridge Smartroof system is a panelised cassette system, engineered to ensure optimum performance to satisfy structural, thermal and fire rating requirements.

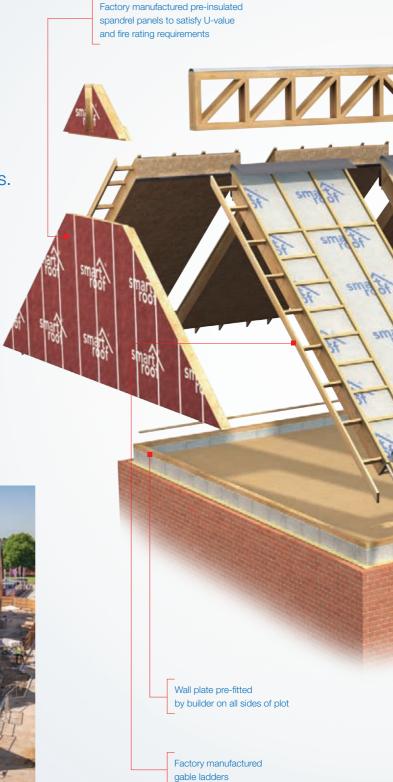
This type of roof is typically used where the span, from gable to gable, is greater than 5.6m. This roof, similar to the gable to gable panels, can also be designed to achieve specific U-values required by the house builder.

The Eaves to Ridge roof incorporates a timber or steel ridge beam (Ridge Support System) and / or intermediate purlins (Purlin Support System) running from gable to gable.

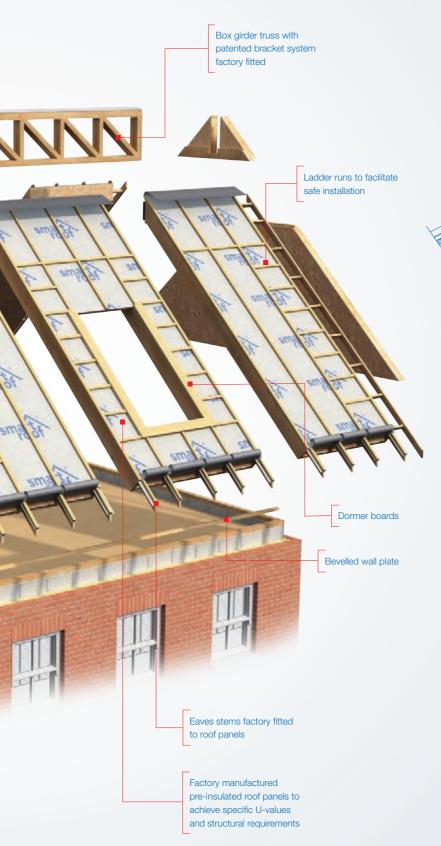
Ridge Support System

This type of roof support system includes either a timber beam, as detailed in exploded view, or steel beam at the ridge. The roof panels are connected to this beam via a patented bracket system to aid speed of installation.



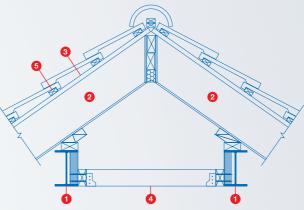






Purlin Support System

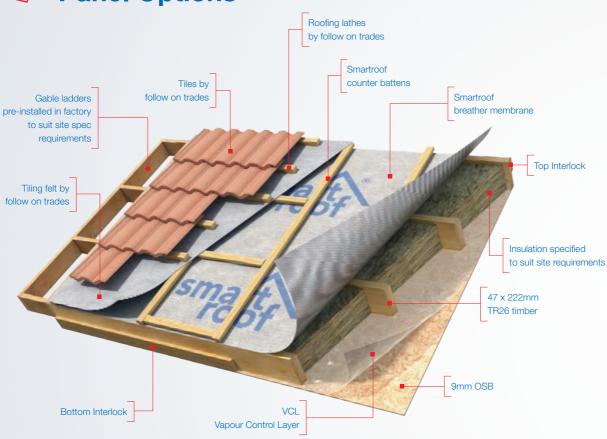
Where increased head height is required for an eaves to ridge roof system high level purlins can be used as indicated on the approved standard detail below.



- 1 Steel purlins as per structural engineer's specification
- 2 47 x 222mm TR26 rafters
- 3 25 x 50mm C16 battens
- 4 Ceiling joists
- 5 Roof battens





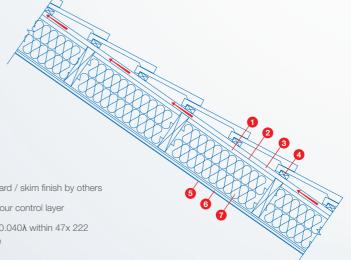


Panel Construction & Options

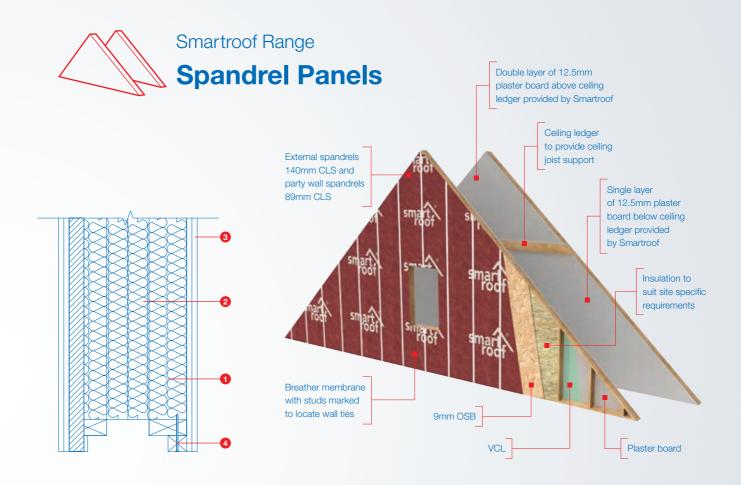
Smartroof Panels can be manufactured to the U-values required for your Room in Roof. Typical standard U-value requirements range from 0.16 W/m² - 0.2 W/m² but any U-value can be achieved.

Roof Cassette Standard Details

- 1 22mm Low-e airspace
- 2 Smartroof reflective membrane
- 3 25x50 C16 Battens: factory fixed: 25mm Ventilation
- 4 Roofing felt / lathes / covering by others
- 5 12.5mm Plasterboard / skim finish by others
- 6 9mm OSB, on vapour control layer
- 7 200mm Insulation 0.040λ within 47x 222 TR26 roof cassette







Spandrel Panel Standard Details

Smartroof has a range of standard details for all spandrel requirements.

Spandrel Panel Range

- 1 38 x 89mm CLS Stud insulated panels
- 2 Breather membrane encased insulation cushions butting together, fully filling the cavity
- 3 2 Layers 12.5mm Plasterboard, factory installed with staggered joints
- 4 Interlock system

Spandrel Construction & Options

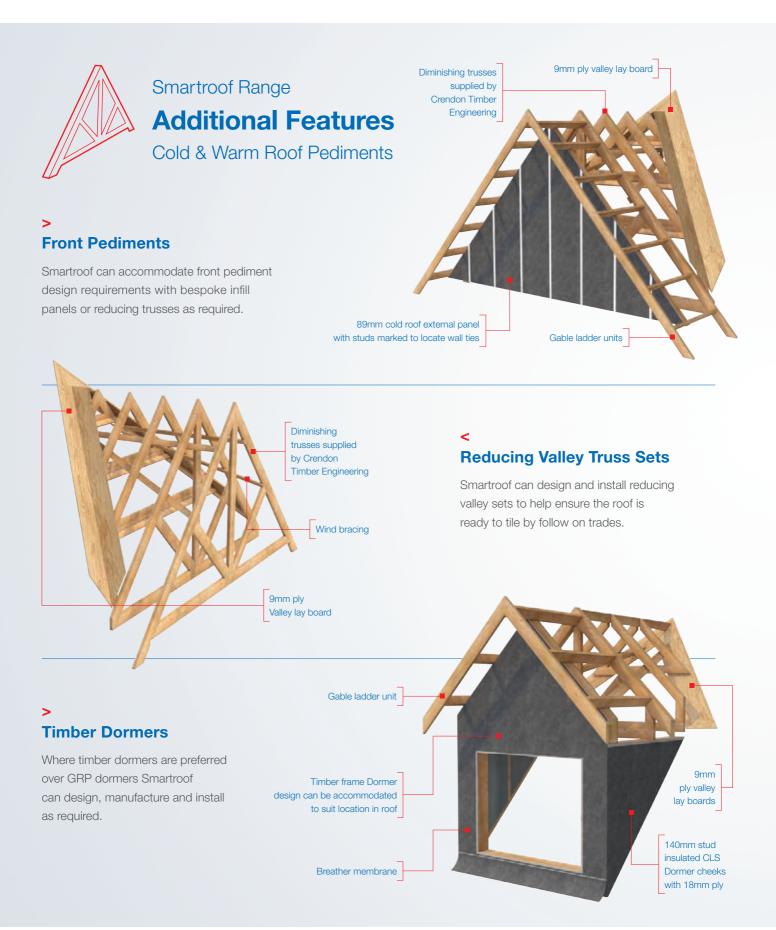
Smartroof spandrels can be designed and manufactured to achieve the required U-values and fire ratings onsite. All Smartroof spandrels comply with Robust standard details.

Smartroof spandrels at external gable ends are typically specified to achieve an overall U-value of 0.2 W/m² - 0.3 W/m².

For party wall spandrels, when the cavity is fully filled with insulation the U-value achieved is 0 W/m².

Spandrel Panels for Cold Roofs

Smartroof can also manufacture Spandrel Panels for traditional cold roof requirements. Spandrel panels are often used to replace the need for masonry walls. Similar to the Smartroof system, spandrel panels have many advantages including no wet trades above roof wall plate height, quicker build time and less time working at height.







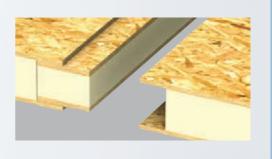
The Smart Suite incorporates a Structurally Insulated Panel System (SIPS) structure which can be used at the early stages onsite to promote house sales. The product benefits from all the advantages of timber frame construction eliminating many of the issues experienced with selling in the early stages of a development. The suite can then be easily converted into a garage or disassembled and erected on a new development as required.







Structural Insulated Panels (SIPS) are a high performance building system for residential and light commercial construction. The panels are a composite panel of Oriented Strand Board (OSB) with a core of rigid structural insulation offering an improved 'thermal-performance-to-wall thickness' ratio.





Traditionally built marketing suites can be a slow build process and can delay the beginning of marketing and ultimately sales activity. A traditional build is also often required to be knocked down and rebuilt elsewhere on the site, making the process more expensive and labour intensive.

Ultimately the Smart Suite helps the builder to get on site and sell their houses faster. The development of this product has spurred further research and development across the Keystone Group in a move towards a full offsite house solution - Keyhouse.

Smartroof Accessories

Dormers

Dormers can be provided through our sister company, IG Elements. These can range from Apex, Flat Roof, Ready to Tile and can come complete with a GRP tile effect roof to match the existing roof finishes. All Dormers are fully insulated to meet current standards and include structural internal framing.





GRP dormer options



Apex Dormer





Chimneys

GRP Chimneys are also avilable from IG Elements. These are available in brick or rendered finish to suit requirements onsite. The Brick Finish Stack is supplied to match existing brickwork. IG Elements offers a standard range of brick colour finishes, pot options and also the chimneys can be supplied with different fixing options to suit all budgets.





GRP rendered chimney options









Roof Windows

Keylite Roof Windows, also part of the Keystone Group, can be included as part of the Smartroof package. Keylite offers a full range of roof windows, flashings, electric operation kits, loft ladders, blinds and accessories. The latest Keylite Polar White uPVC Roof Window range combines innovative design with the latest in material technology and precision manufacturing.







Centre Pivot Pine Roof Window





Plastics

Smartroof can supply all plastics for your build including Over Fascia Vent, Double Vented Soffit and Standard Fascia and Soffit. These can also be supplied through your prefered plastics supplier.



Over Fascia Vent



Double Vented Soffit



Standard Fascia & Soffit



Become a Smartroof Installer

Become a Smartroof Registered Installer in four easy steps:

1

Smartroof will visit your site to discuss full installation process from pre-start requirements to final sign-off.

2

Accompany Smartroof team on first installation of your roof.



Install your own
Smartroof system with
supervision from Smartroof
contracts manager.

and competent to install the product.



In partnership with the CITB Smartroof has pioneered the

development of a new NVQ Level 2 qualification for pre-assembled roof structure installation. This NVQ improves the Smartroof

service offering to customers ensuring all installers are fully trained

Receive certificate to confirm Smartroof Registered Installer status.











Smartroof Installation App

In addition, a new mobile app is available for the installation teams which helps ensure compliance to quality and health and safety standards throughout the entire Smartroof process from pre-start to final sign-off.

These reports are automatically sent to the site manager for their records and also logged at Smartroof head office.





Minimum requirements to become a Smartroof Registered Installer:

Certified Installers

All Smartroof installers are subject to ongoing random site checks to assist us in maintaining the highest possible standards and support.

- 1 Comply with Smartroof Risk Assessment & Method Statement (RAMS)
- 2 Suitable qualifications: The Smartroof system can be installed by a team of 3, all with suitable harness training and CPCS certification
- Crane Appointed Person (if no CAP, contract lift must be provided through crane company)
- Crane Supervisor
- Slinger Banksman



Smartroof Customer Support Pack

The new Smartroof Customer
Support Pack has been designed
with house builders in mind.
Each stage of the Smartroof process
is covered meticulously, from the
call-off process right through to
post installation checks and
after-sales support.















Builder

Lovell Homes



Site

Heath Farm, Holt Plots 200 & 205



Architect

Chaplin Farrant Limited



Health & Safety



Speed of Construction



Cost Certainty



Consistent Quality



The Complete Package



Lovell Homes previously used traditional methods in the construction of its three storey homes in a process involving masonry gables, attic trusses and hand cut pediments. The Smartroof system was installed in 1 day.

Maintaining maximum site safety was a concern due to the extensive working at height plus the risk of collapse of masonry gable walls during installation. Mitigation methods for these safety issues required the use of both internal and external scaffolding with associated costs. The Smartroof installation process eliminated these risks.

Redrow

Eaves to Ridge Smartroof System

I am pleased to say that from the feedback
I have received from the Redrow North
West Construction Team, they were very
impressed by the installation team. The design
department also played their part in getting
the production drawings completed.

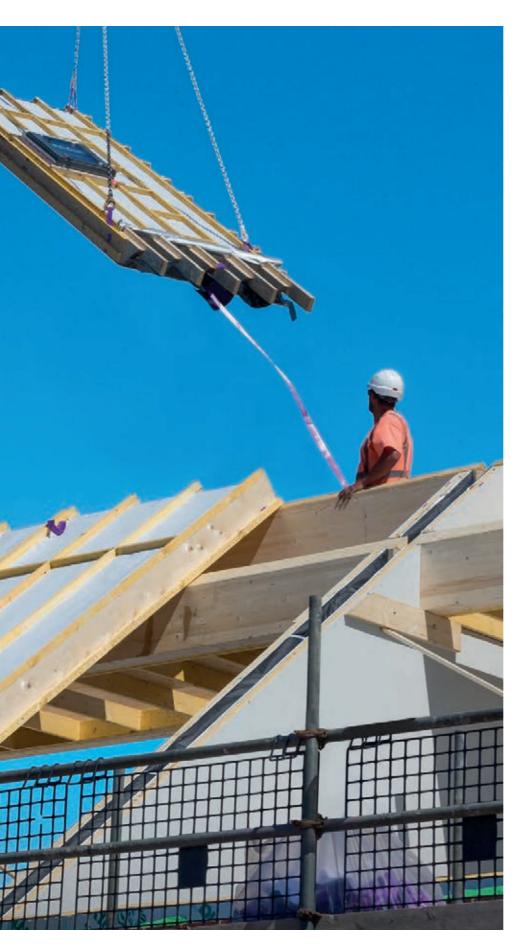
Jon Moss

Research and Sustainability Manager Redrow











Builder

Redrow



Site

Penrhos Road, Bangor, Gwynedd



Architect

Redrow North West Architect



Health & Safety



Speed of Construction



Cost Certainty



Consistent Quality

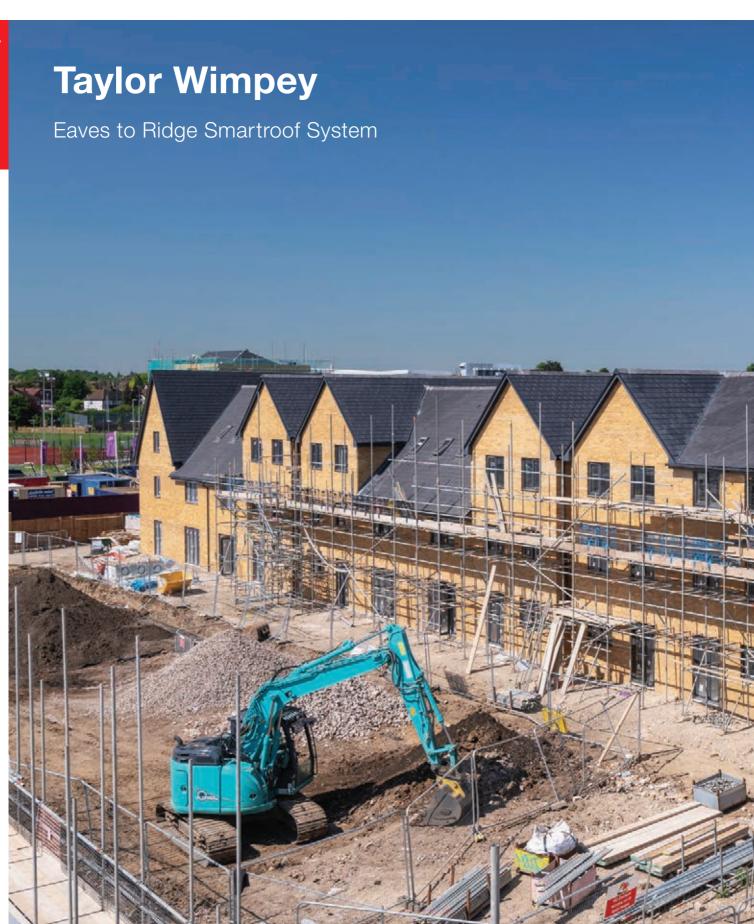


The Complete Package



Redrow coastal development in
Bangor, North Wales provided a tough
challenge for their North West team.
Strict regulations for coastline construction
meant there were a limited number of
days for building work to be carried out.
Smartroof offered Redrow the fastest
solution on the market.

Produced offsite and installed in hours, Smartroof's insulated roof panel system delivered major benefits to Redrow in terms of site safety, thermal performance, quality assurance and crucially, speed of construction.







Thomas Cox

Commercial Manager
Taylor Wimpey North Midlands







Builder

Taylor Wimpey



Site

Tolworth Square, North Surbiton



Architect

AAP Architecture Limited



Health & Safety



Speed of Construction



Cost Certainty



Consistent Quality



The Complete Package

Taylor Wimpey

The development consists of a mixture of large detached, semi-detached, 3 and 4 block houses. There are also a combination of roofs with Smartroof running into traditional truss plots and a mix of gable to gable and eaves to ridge systems.

To overcome the challenges of the tight site, Smartroof delivered their products with the use of smaller rigid vehicles and smaller 40 ton city cranes.

What our customers have to say.



Matthew Williams
Director
HGP Architects

I was extremely impressed with the build speed, health & safety onsite as well as the thermal properties of the product.



"

Smartroof has been supplying our sites for the past number of years for our Room in Roof requirements with a mixture of gable to gable and eaves to ridge roof systems. **Smartroof consistently performs in terms of customer service, efficiency and roof quality**.

The Smartroof is delivered to site and installed in just one day offering us certainty on completion times.

Smartroof's supply and fix complete package including IG Elements Dormers and Keylite Roof Windows offers cost certainty on the roof element of our houses.

Chris Burton

Group Commercial Director Bloor Homes



"

We have been using Smartroof on Chase Farm, Gedling and Meadow Lane, Brookvale over the past year. The service from Smartroof is fantastic and Keepmoat have an excellent relationship with both Commercial and Design divisions. They have even helped us out on numerous occasions with very short lead times to help us meet build programme deadlines.

We were particularly impressed with the speed of construction of the Smartroof system with delivery and installation complete on the same day. Production of the system offsite means less vehicle movements onsite, reduced handling of materials and eliminated time working at height and risks associated with gable walls and falling blockwork.

Lee Parry

Construction Director Keepmoat



GG

Smartroof consistently perform in terms of customer service, efficiency and roof quality.

Chris Burton

Group Commercial Director Bloor Homes





"

Smartroof provided me with roof panels, spandrel panels and brick slip chimneys for a recent project. I was extremely impressed with the build speed, health and safety onsite as well as the thermal properties of the product. Adopting a fabric first approach to building has never been more important. Smartroof provided me with a cost effective solution to increasing SAP performance. In addition to roof performance, the ability to control costs onsite is vital and Smartroof offers cost certainty compared with traditional build, which requires multiple materials, trades and hire services.

Matthew Williams

Director HGP Architects



"

Smartroof has been supplying our sites in the North Midlands region with all our Room in Roof requirements. **We have** a fantastic working relationship with Smartroof and feel they excel both on product and customer service.

At Taylor Wimpey, we have been able to reduce build times as a result of installing Smartroof's Room in Roof system in our developments. We were delighted with the speed at which the system was installed and at the quality of the finished product. The system provided many benefits with no downtime between multiple trades and reduced health and safety risks onsite.

Thomas Cox

Commercial Manager
Taylor Wimpey North Midlands

Keystone Group Timber Businesses

As part of the Keystone Group, Smartroof can provide the complete Timber package with sister companies, Wyckham Blackwell, Timber Innovations and Crendon Timber Engineering.









Wyckham Blackwell

Wyckham Blackwell started business in Hampton-in-Arden in 1884. Beginning initially as a home grown timber merchant the company has evolved through saw milling, fencing, specialist joinery and merchanting to become a true specialist in timber engineered products, providing a total package to service the industry.

















Crendon Timber Engineering

Crendon Timber Engineering, operating from 8 sites nationwide, offer a range of engineered wood products (EWP), from carefully selected supply partners, for floor and roof applications in both housing and commercial markets.





Timber Innovations

Timber Innovations is a specialist Timber Frame manufacturer based in the West Midlands, providing the design, manufacture and installation of Timber Frame, SIPS and Oak Frame dwellings nationwide.

Timber Innovations expertise also extends to roof trusses / panels and engineered floors. All dwellings are constructed using high performance and thermally efficient materials.



We listen to our customers.

To ensure we continue to develop our products and service, we welcome your feedback.

If you would like further information on the Smartroof product range please contact us.





Need to know more?

To find out more about Smartroof or to read our full terms & conditions please visit smartroof.co.uk/files/ terms_conditions.pdf



- Crendon Timber Engineering
- Wyckham Blackwell **Timber Engineering**
- Timber Innovations

1 Smartroof Swadlincote

Ryder Close Cadley Hill Industrial Estate Swadlincote, South Derbyshire **DE11 9EU**

2 Smartroof Cwmbran

Avondale Road Cwmbran, Gwent NP44 1XY

3 Smartroof Cookstown

Ballyreagh Business Park Cookstown, Co. Tyrone BT80 9DG

T 01283 200 199 E info@smartroof.co.uk







Housebuilder **Product Awards**



Housebuilder **Product Awards**



Housebuilder **Product Awards**



Build It Awards



Structural Timber Awards