POINT1
BUILDING SYSTEMS

SIPS
TIMBER FRAME
CLT
GLULAM

Design - Manufacture - Installation

www.point1buildingsystems.com

POINT1
BUILDING SYSTEMS

Unit 5 & 8, Knights Park, Hussey Road, Battlefield
Enterprise Park, Shrewsbury, Shropshire, SY1 3TE

Telephone - 01743 460066
E-Mail - enquiries@point1buildingsystems.com

www.point1buildingsystems.com

INTRODUCTION

"Our commitment to all our clients is to ensure complete satisfaction with the high performance buildings that we deliver and the level of service we provide." Garry Dyke, Director

Point1 Building Systems, a Kingspan TEK™ Delivery Partner since 2013, started in Burton-on-Trent, later relocating to Shropshire and establishing our own premises in Knights Park, Shrewsbury in 2018.

Over the years, Point1 Building Systems has experienced significant growth in the Self-build and Residential building sector. This growth has been instrumental in our company's ability to take on more projects and deliver exceptional results.

With the introduction of specialist manufacturing equipment in recent years, the investment has allowed our Point1 team to bring offsite manufacturing processes in-house.

As Point1 Building Systems continues to grow and evolve, our commitment to excellence and innovation in residential construction remains unwavering.

Our in-house manufacturing capabilities stand as a testament to our dedication to providing high-performance solutions for our clients.

EXPERIENCE

We have worked extensively with the Kingspan TEK™ Building System since its UK introduction in 2000. Our sales and design team specialises in SIPS construction and has the technical expertise to support you through your build process.
In addition to a full SIPS building, we can also supply hybrid construction combinations including Timber Frame, CLT and Glulam

COMMITTMENT

With our extensive construction knowledge, Point1 provide unrivalled technical support throughout your build resulting in the construction of a high quality building that's second to none.

We provide a professional service from start to finish, working with you, your architects and any project specialists required.

CAPABLILITY

Celebrating over 10 years in business, we manufacture and process all SIPS components in our factory in Shrewsbury, Shropshire.

We specialise in the supply of complex high performance buildings, providing bespoke detailing and services to meet our clients' brief.

KNOWLEDGE

Our team has a unique broad awareness of construction materials and design techniques.

Your Point1 'journey' will commence with establishing a complete understanding of your requirements; a detailed quotation and specification will follow.

Here's a comment from one of our customers :

"What a great decision that was – not only do we now have the most stunning house (or at least shell), but we have also had the best possible support getting to this point. On the technical side, your detailed drawings, 3-D renderings and explanations have been a revelation: clear, even to the layman, accurate and eminently flexible. We have been particularly impressed by your team's ability and speed in responding to any and all queries from us and your attitude that nothing is too much trouble."

Victoria and Philip - Marlborough

SIMPLE PART L COMPLIANCE

Photo courtesy of Justin Smith Architects

PART L BUILDING REGS

The latest Part L 2022 update to building regulations requires more consideration to be given to “Thermal Bridging” at junction details. Maximum allowable air permeability has been reduced by 50% to 5m³ per hour at normal operating pressure. U values by element (wall/floor/roof/glazing) need to be improved. Your new home will also be required to deliver a 31% reduction in carbon emissions over previous 2013 regulations. This is likely to reduce even further to a suggested 75 - 80% reduction in carbon emissions under the proposed 2025 Future Homes Standards.

When planning your new building, it is crucial to consider the significant investment you are making, particularly with your building's fabric performance. Using a “fabric first” approach will assist you in developing a strategy focused on reducing the amount of energy required for space heating within your new home. Choosing TEK (SIPS) from Point1 Building Systems Ltd gives you access to a full set of PSI value details as standard and we can also assist by providing SAP analysis if required. Please be aware that many build systems do not have the “out of the box” pre-calculated details, supporting data and third-party accreditation in place. The time to find that out is not just after you have placed your order and have committed funds. Please do some research and ask for evidence of performance prior to committing.

SAP is the “Standard Assessment Procedure” methodology for demonstrating and checking that domestic buildings comply with current building regulations. A proactive SAP lead approach is invaluable – used in advance at the “design stage” to establish the target performance required, followed on with the “As built” stage at the completion of the build, ultimately providing you with an EPC rating/report.
Without a comprehensive range of proven and thermally modelled U value and psi value details, compliance may not be possible. Default backstop values for non-tested systems are now very poor and may lead to the inclusion of other costly renewable items to close the performance gap required.

MEASURING EFFICIENCY

U VALUES

U Value is a measure of heat loss and is typically taken through the most common (generally best performing) area of a building system wall, roof or floor. It is expressed in W/m²K and shows the amount of heat lost in watts (W) per square metre. A U-value calculation also assumes the typical amount of thermal bridging in that common area.

PSI VALUES (Ψ)

Psi-value (also written as a ψ–value) is the measure of how much heat is lost through a particular junction or standard detail. Unlike a U-value, which measures heat loss across the surface area of an element, Psi-values are calculated for the length of a junction – whether it is the joint between a wall and floor or around a window cavity. This heat loss is measured in Watts per metre Kelvin (W/m²K). Psi values are very important during SAP analysis.

Y VALUES

Y-value represents the total thermal bridging heat loss calculation for a property. It looks at a combination of psi values (linear measure of heat loss) and U values (surface area of heat loss). It is an important factor in determining whether a property complies with the energy efficiency requirements of the Building Regulations and Standards.

MVHR (MECHANICAL VENTILATION WITH HEAT RECOVERY)

If less than 5m³at 50 pascals, the building will need an MVHR system. Clients often achieve 3m³per hour at 50 pascals without any additional intense detailing.

We can integrate your MVHR duct route plan into our designs early to identify any ducts passing through structural components that can be pre-drilled for simplicity.

Kingspan TEK® Building System (SIPS)

Photo courtesy of Norfolk Pro Build

PERFECT FOR SELF BUILD AND RESIDENTIAL DEVELOPMENTS, SIPS DELIVERS HIGH PERFORMANCE, ENERGY EFFICIENCY, WITH SUPER FAST BUILD TIMES

Roof solution

SIPS Spline joints

Vaulted ceilings

SIPS can provide many solutions, from incredibly strong external insulated walls to beautiful warm vaulted insulated roofs. No other building method has a combined wall and roof panel system that offers low U values, low levels of thermal bridging, excellent air permeability and structural span capability as standard.

SIPS is an acronym for “Structural Insulated Panel System”. SIPS are a cost-efficient, high-performance alternative to traditional “wet” built masonry cavity wall construction or traditional Timber Frame construction and are used to construct domestic dwellings and also commercial properties.

UNPARALLELED ENERGY EFFICIENCY

KINGSPAN TEK® BUILDING SYSTEM (SIPS)

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POINT1 BUILDING SYSTEMS

TEN YEARS 2013 - 2023

WHAT ARE SIPS?

KingspanTEK® Building system panels are created using a high-performance, fibre-free, rigid, urethane insulation core, which is sandwiched together as part of the chemical adhesion process by autohesively bonding it between the two sheets of 15mm OSB/3 facings. Structural panels provide stiffness and strength with predictable applied loads.

Point1 SIPS panels are manufactured in the UK by Kingspan Insulation Ltd. SIPS are purchased by Point1 as a blank uncut panels with sizes ranging from 1220mm x 4800mm - 1220 x 7500mm. The panels are then processed in our factory and delivered nationally with the rest of our home-building system. We have two standard thicknesses of SIPS panels, 142mm and 172mm.

Thermal performance is not limited by these two-panel thicknesses and thicker panels are not the answer to the challenges set by the new 2022 Part L. We can apply secondary layers of insulation to mitigate thermal bridging and lower U Values to incredibly low levels (Point1 W/m²K or less if required). The KingspanTEK® Building System can achieve whole wall and roof U-value of 0.19 - 0.10 W/m²K or better and air leakage levels as good as approximately 1 m³ /hour/m² at 50 Pa or greater - with additional detailing.

ACCREDITATION, PERFORMANCE

The KingspanTEK® Building System has third-party accreditation and holds a BBA Agrement Certificate ref 02/S029. This is particularly important from the perspective of Mortgage Lenders or Building Warranty Providers. The Kingspan TEK Building System is recognised by the key building warranty providers, such as NHBC, LABC, Premier Guarantee, ABC Warranties, etc, and can comply with their specific requirements. The TEK panel itself has a 20-year manufacturer-backed warranty against manufacturing defects in a residential application.

Key Building Warranty Providers now insist that your supplier have a quality management system, such as ISO9001-2015. In addition, your house should be responsibly procured via a member of the Structural Timber Association (STA) with a minimum Silver or preferably Gold member status.

Finally, we responsibly source our timber and wood-based products and can demonstrate this via chain of custody under PEFC or FSC.

BENEFITS

- High performance
- Energy Efficient
- Incredibly low U values as standard
- Inherently Air tight construction
- Slim wall (more internal floor space)
- Complete wall and roof system
- Minimal waste on site
- Fast installation
- Follow on trades start sooner
- Reduced critical path duration
- Not weather dependant
- Low, long term running costs
- Predicted project completion times

CERTIFICATES

- BBA certified system
- NHBC approved
- BRE Green Guide A+ or A rated
- PEFC certified

Kingspan TEK® a Delivery Partner

BBA APPROVAL INSPECTION TESTING CERTIFICATION

Building System Agrément Certificate 02/S029

PEFC PEFC/16-37-2363

By sourcing PEFC wood, Point1 Building Systems Ltd is supporting sustainably managed forests globally www.pefc.co.uk

SITE SAFE

STA ASSUREGOLD

ACCREDITED USER

STRUCTURAL TIMBER ASSOCIATION Building offsite solutions in timber

CATG ISO 9001 REGISTERED

TYPICAL CONSTRUCTIONS AND U-VALUES

Kingspan TEK® Building System walls with 102.5 mm brickwork outer leaf

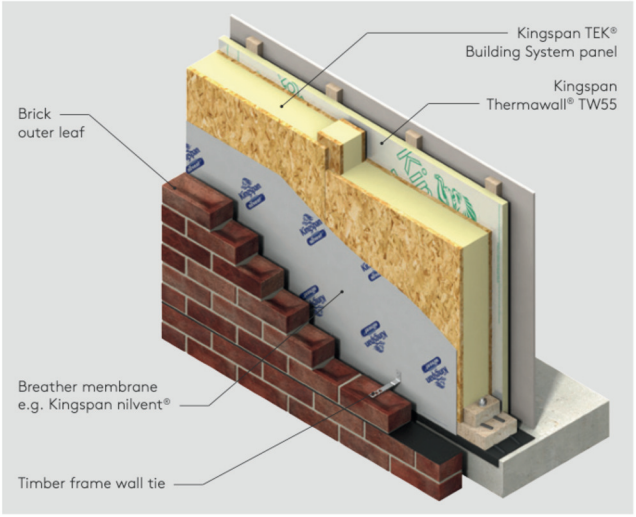


Figure 1

Kingspan TEK® Building System walls with 10 mm polymer rendered 100 mm dense blockwork outer leaf

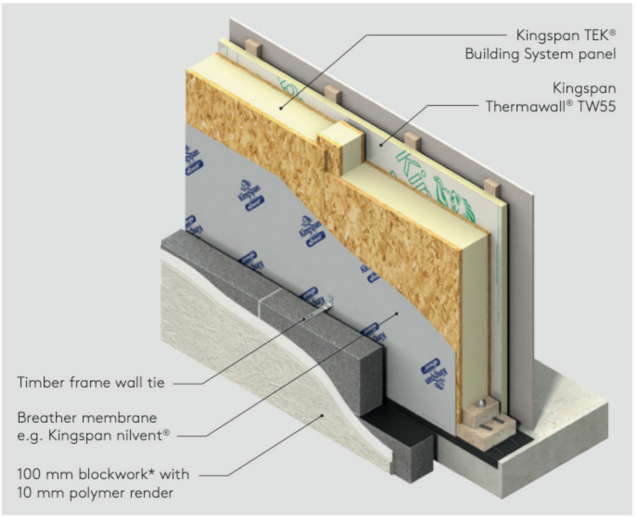


Figure 2

U-values for Kingspan TEK® Building System walls with various thicknesses of additional insulation and different breathable membranes

Thickness of Kingspan TEK® Building System panels (mm)	Thickness of Kingspan Thermawall® TW55 (mm)	U-value (W/m²K)	
		Standard breathable membrane	Foil faced breathable membrane
142	0	0.19	0.18
142	20	0.15	0.15
142	25	0.15	0.15
142	30	0.14	0.14
142	40	0.13	0.13
142	50	0.13	0.12
142	60	0.12	0.12
142	70	0.11	0.11
142	75	0.11	0.11
142	80	0.11	0.10
142	90	0.10	0.10
172	0	0.16	0.15
172	20	0.13	0.13
172	25	0.13	0.12
172	30	0.12	0.12
172	40	0.12	0.11
172	50	0.11	0.11
172	60	0.11	0.10
172	70	0.10	0.10

U-values for Kingspan TEK® Building System walls with various thicknesses of additional insulation and different breathable membranes

Thickness of Kingspan TEK® Building System panels (mm)	Thickness of Kingspan Thermawall® TW55 (mm)	U-value (W/m²K)	
		Standard breathable membrane	Foil faced breathable membrane
142	0	0.19	0.18
142	20	0.15	0.15
142	25	0.15	0.14
142	30	0.14	0.14
142	40	0.13	0.13
142	50	0.13	0.12
142	60	0.12	0.11
142	70	0.11	0.11
142	75	0.11	0.11
142	80	0.11	0.10
142	90	0.10	0.10
172	0	0.16	0.15
172	20	0.13	0.13
172	25	0.13	0.12
172	30	0.12	0.12
172	40	0.12	0.11
172	50	0.11	0.11
172	60	0.11	0.10
172	70	0.10	0.10

Fig 2 - Calculations assume a dense block of λ-value 1.13 W/m²K.

Assumptions - The U-values in the tables that follow have been calculated using the method detailed in BS EN ISO 6946: 2017 (Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods) and using the conventions set out in BR 443 (Conventions for U-value calculations). The U-values in the following tables are valid for the constructions shown in the details immediately above. Unless otherwise stated, the U-values quoted are based on an internal construction comprising a 3 mm plaster skim on a 12.5 mm plasterboard fixed to 50 x 25 mm softwood timber battens. The external finishes are as specified in the examples themselves.
NB For calculations which do not feature additional internal insulation, a 4% bridging factor has been assumed for walls and 1% for pitched roofs. The thermal conductivity of the timber has been assumed at 0.12 W/mK.
NB Calculations assume that the use of a foil-faced breather membrane yields an airspace thermal resistance of 0.54 m2K/W.
NB For the purposes of these calculations, the standard of workmanship has been assumed good and therefore, the correction factor for air gaps has been ignored.
NB The figures quoted are for guidance only. A detailed U-value calculation, together with condensation risk analysis, should be completed for each individual project.
NB If your construction is any different to those specified and/or to gain a comprehensive U-value calculation along with a condensation risk analysis of your project, please consult the Kingspan Insulation Technical Service Department for assistance (see rear cover for details).

TYPICAL CONSTRUCTIONS AND U-VALUES

Kingspan TEK® Building System wall panels with ventilated cladding

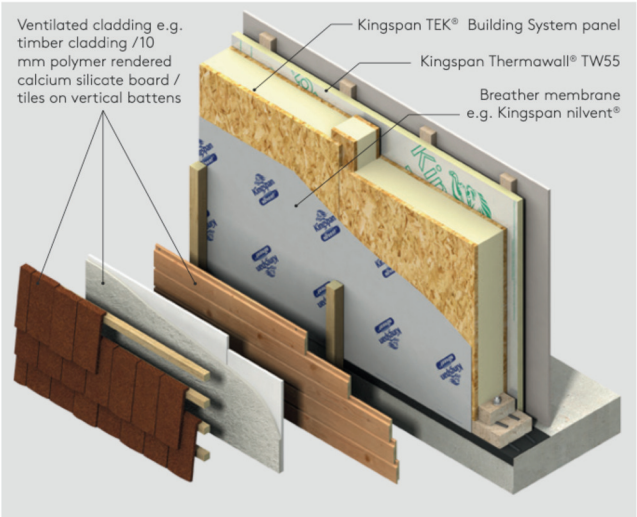


Figure 3

Kingspan TEK® Building System pitched roofs

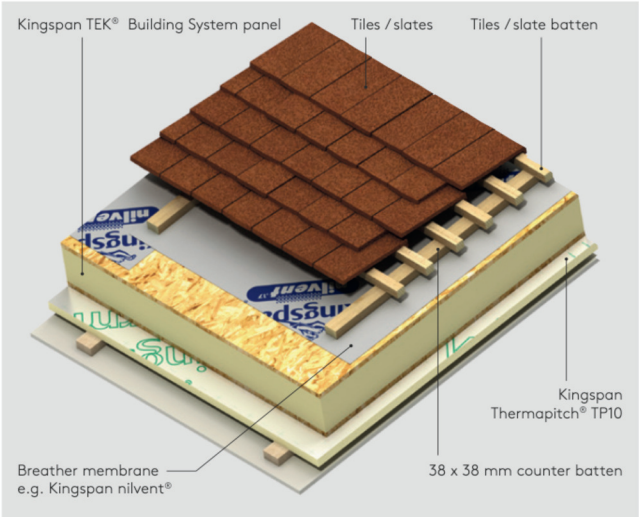


Figure 4

U-values for Kingspan TEK® Building System walls with various thicknesses of additional insulation		
Thickness of Kingspan TEK® Building System panels (mm)	Thickness of Kingspan Thermawall® TW55 (mm)	U-value (W/m^2K)
142	0	0.20
142	20	0.16
142	25	0.15
142	30	0.15
142	40	0.14
142	50	0.13
142	60	0.12
142	70	0.12
142	75	0.11
142	80	0.11
142	90	0.11
172	0	0.17
172	20	0.14
172	25	0.13
172	30	0.12
172	40	0.12
172	50	0.11
172	60	0.11
172	70	0.10

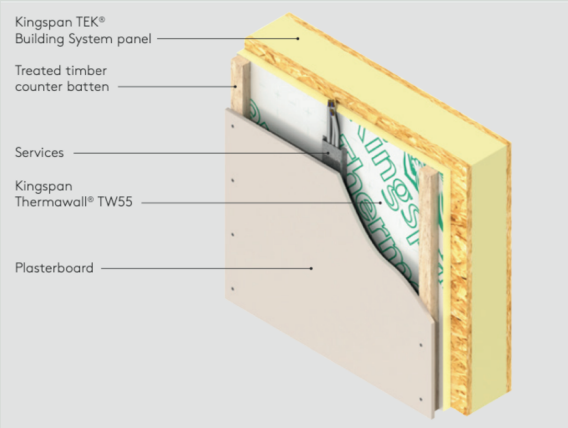
U-values for Kingspan TEK® Building System walls with various thicknesses of additional insulation and different breathable membranes		
Thickness of Kingspan TEK® Building System panels (mm)	Thickness of Kingspan Thermapitch® TP10 (mm)	U-value (W/m^2K)
142	0	0.19
142	20	0.16
142	25	0.15
142	30	0.15
142	40	0.14
142	50	0.13
142	60	0.13
142	70	0.12
142	75	0.11
142	80	0.11
142	90	0.10
172	0	0.16
172	20	0.13
172	25	0.13
172	30	0.12
172	40	0.12
172	50	0.11
172	60	0.11
172	70	0.10

U-values for KingspanTEK® Building System Walls with various thicknesses of additional insulation and different breather membranes. We provide U Value calculations, including condensation risk analysis, as a part of our works for all P1 schemes.

Please assess the need for electrical sheathing or conduit in accordance with Building Regulations/standards and BS 7671: 2008 + A3: 2015 (Requirements for Electrical installations. IET Wiring Regulations)

Where an electrical back box is to be fitted to a Kingspan TEK® Building System wall or roof, the electrical back box must be either surface mounted or the service cavity must be sufficiently wide enough to accommodate a flush-fitting electrical back box. Under no circumstances should the OSB/3 facing and/or the insulation core of the TEK® Building system panel or any internal insulation be chased out to accommodate service fittings.

INTERNAL LINING OPTIONS ON SIPS WALLS AND ROOFS



Kingspan TEK® walls and roofs can easily be upgraded to enhance thermal and psi value performance by adding a secondary layer of insulation, typically positioned on the room side of the wall or roof slope. In both instances, the insulation sheets would be held in position with service void battens. Joints in the insulation layer are fully taped to create a continual foil face and, therefore, a vapour check.

The image to the left shows a TW55 insulation layer with a 25mm x 50mm batten zone with a minimum 12.5mm plasterboard on 25mm (d) x 50mm (w) vertical timber battens. Insulation should be TW55/TP10, as shown and should not be substituted for lower-cost alternatives under the new Building Safety Act. All TEK assemblies are REI fire-tested. (External positioning of the insulation layer is possible but will need confirming via calculation. Contact P1 technical for further details).

WATER VAPOUR CONTROL

Consideration should be given to the risk of condensation when designing thermal elements. Condensation can be controlled in buildings constructed with the Kingspan TEK® Building System by ensuring the panels are properly installed in accordance with Kingspan Insulation Ltd's guidance, and a fully integrated and operating mechanical ventilation system is incorporated within the building design. Provided these directions are followed, interstitial condensation under normal domestic conditions should be minimised and no vapour control layer is required.
Notwithstanding this, a condensation risk analysis should be carried out for all projects following the procedures set out in BS 5250: 2021 (Managment of moisture in buildings. Code of practice). The Kingspan Insulation Technical Service Department can provide this service.

If a condensation risk is predicted, it can be controlled by ensuring there is a layer of high vapour resistance on the warm side of the insulation layer. If required, the vapour resistance of the wall lining can be increased by the use of a vapour check plasterboard*, the use of Kingspan Thermapitch® TP10 or Thermawall® TW55, both of which contain an integral vapour control layer*, the use of a layer of polythene sheeting*, or by the application of two coats of Gyproc Drywall Sealer to the plasterboard lining.

*With appropriate detailing at joints, penetrations and wall perimeters.
NB The System is not recommended for cellars or basement constructions, or for use in high jumidity environments

INSULATION

An additional insulation layer on the inside face of external Kingspan TEK® wall/roof panels is easily customisable and further improves psi values / air permeability etc. It is also great for addressing thermal bridging at junctions and at hard joints to assist with air tightness. Point1 Building Systems can supply and install this package, or supply only if the client prefers to use local labour to carry out this work.

TEK ROOFS

As with the external walls both 142mm/172mm Kingspan TEK® panels can be utilised to form habitable roofs, warm roof solutions and vaulted ceilings. As standard they can achieve U-values of 0.19 W/m²K or better. Panels are manufactured up to 7.5m long with the support of intermediate purlins. Point1 can also supply an alternative roof solution such as traditional trusses or I-joist rafters upon request.

TIMBER FRAME/HYBRID

WE ALSO OFFER INSULATED TIMBER FRAME PROJECTS WHICH CAN BE COMBINED WITH KINGSPAN TEK® TO CREATE HYBRID/BESPOKE BUILDINGS. POINT1 CAN SUPPLY TO SUIT YOUR BUDGET AND SPECIFICATION REQUIREMENTS.

Trussed roof solutions

External timber frame

Insulation upgrades

External timber frame wall panels offer a versatile solution for construction projects and present unique advantages. The method combines the benefits of cost efficiency, high performance, sustainability and embraces traditional timber frame construction techniques, Timber frame effectively minimises thermal bridging, enhancing air permeability and boasts excellent structural span capability. This approach is adaptable for both residential and commercial property construction making it a noteworthy alternative to SIPS, where the emphasis is on modular insulated panels and significant cost savings.

EFFICIENT TIMBER FRAME CONSTRUCTION

TIMBER FRAME/HYBRID

www.point1buildingsystems.com

POINT1 BUILDING SYSTEMS

TEN YEARS 2013 - 2023

WHAT IS OFFSITE TIMBER FRAME?

Point1 Building Systems Ltd manufactures timber frame walls in-house, processed in our factory and delivered nationally with the rest of our house building system components. These timber frame panels serve a dual purpose, forming both external and internal walls. External wall panels, typically 140mm wide, comprise softwood timber studs and rails featuring a typically 9mm OSB3 sheathing board and a breather membrane on the cavity side. Internal panels are typically 89mm wide and, if necessary from an engineering perspective, may include an OSB3 sheathing panel on one side for racking stability. Other external wall panel systems such as I-joist or Posi-Joists are available; these other products are often used in vapour open applications or on Passivhaus schemes.

These timber frame panels are pivotal as the primary structural support system, carrying the load of both floors and roofs. Subsequently, they transfer these loads down to the building's foundations. Depending on the specific detailing and the type of insulation within the panel void between the studs, offsite timber frames have the potential to achieve U-values ranging from 0.26 down to 0.1 W/m²K.

Panel elevations are carefully designed to conveniently fit onto the bed of a delivery truck for transportation to the construction site. By joining multiple panels together on-site, a comprehensive set of building elevations can be assembled, forming the complete structural building envelope.

ACCREDITATION, PERFORMANCE

This is particularly important from the perspective of Mortgage Lenders or Building Warranty Providers. Buildings constructed using Timber Frame standard details and built using STA guidance by qualified STA erectors are recognised by the key building warranty providers, such as NHBC, LABC, Premier Guarantee, ABC Warranties, etc, and can comply with their specific requirements.

Key Building Warranty Providers now insist that your frame system supplier have a quality management system in place, such as ISO9001-2015. In addition, your project should be responsibly procured via a member of the Structural Timber Association (STA) with a minimum Silver or preferably Gold member status. Finally, we responsibly source our timber frame and wood-based products and can demonstrate this via chain of custody under PEFC or FSC.

BENEFITS

- Excellent sustainability properties
- Large choice of stud sizes.
- Lightweight skeletal frame.
- Supports climate change agenda for Net Zero
- Offsite manufacture improves quality
- Clean and quiet during build process
- Speed of construction reduces build programmes
- Reduced vehicle movements to site
- Fully designed and engineered systems
- Fully tested to comply with regulations
- Tried and tested technology

CERTIFICATES

- NHBC approved
- BRE Green Guide A+ or A rated
- PEFC certified
- STA Technical Support

PEFC
PEFC/16-37-2363
By sourcing PEFC wood, Point1 Building Systems Ltd is supporting sustainably managed forests globally
www.pefc.co.uk

SITE SAFE
ACCREDITED USER

STA ASSUREGOLD

STRUCTURAL TIMBER ASSOCIATION
Building offsite solutions in timber

CATG

SIPS/TIMBER FRAME COMPARISON SHEET

Comparison	SIPS	TIMBER FRAME
Construction Material	Kingspan TEK® SIPS are large panels made of two layers of 15mm oriented strand board (OSB3) autohesively bonded to an insulated core, providing a highly insulated and airtight building envelope.	Timber frame panels are formed using a combination of vertical studs and horizontal timber rails which are then typically sheathed with a single layer of board such as 9mm OSB3.
Insulation	SIPS are known for their excellent insulation properties. The insulation is an integral part of the panels which significantly reduces thermal bridging associated with repeating timber stud work.	Traditional timber frame houses also provide insulation, but it will not be as thermally efficient as SIPS due to regularly repeating studs. Unlike SIPS, Timber frame panels can be supplied without insulation.
Construction Speed	SIPS are quick to assemble on-site. They are factory cut, packaged, and are supplied as a kit for on site assembly by our installers and are built into an insulated and air tight layer.	Timber frame panels are typically supplied as large format walls and are quick to install.
Airtightness	SIPS are well known for their excellent airtightness as standard, which leads to energy efficiency and reduced heat loss.	Achieving airtightness in a timber frame building can be challenging. It requires vapour control layers, additional labour to install these, and attention to detail to achieve the desired performance.
Design Flexibility	SIPS are incredibly flexible and can be designed to create walls and roofs of virtually any size or shape.	Timber frame panels are more modular than SIPS and rely on standard timber stud lengths to create specific wall panel heights for manufacturing cost efficiency.
Cost	SIPS are cost-effective in terms of energy efficiency and construction speed but will appear to have higher upfront material costs, particularly at quotation stage.	Timber frame construction will look cheaper at quotation stage. Unless thermal bridging is correctly mitigated, it can be less energy-efficient and may have higher long-term energy bills.
Sustainability	Both methods are sustainable depending on the sourcing of materials and construction practices.	

It's essential to consider your specific needs, budget and design preferences when choosing between these construction methods. Also, local building regulations can impact your choice, so it's best for you to consult with a professional architect or builder for your specific project.

POINT1
BUILDING SYSTEMS

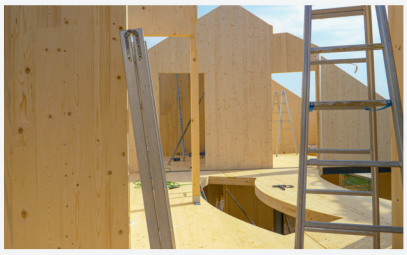
FOR MORE INFORMATION ON CLT VISIT OUR NEW MASS TIMBER WEBSITE

WWW.POINT1MASSTIMBER.COM

CLT

Cross-laminated timber (CLT) is a game-changer in modern construction. This dynamic building material isn't just versatile; it is the embodiment of design freedom, sustainability, efficiency and safety.

Wall options



Floor solutions

Roof solutions

CLT boasts versatility in applications, primarily for floors, walls, and roofing. Its exceptional resistance to racking and compressive forces makes it particularly cost-effective for multistory and long-span diaphragm projects.

CLT panels serve as load-bearing elements in structural systems, such as walls, floors, and roofs. When used in wall applications, the timber on the outer layers is typically oriented vertically to align with gravity loads, maximising vertical load capacity. For floor and roof applications, the outer layer of timber is oriented to match the span direction. This adaptability enhances CLT's suitability for various construction needs.

DURABLE & RESILIENT CLT FRAMEWORK

CROSS LAMINATED TIMBER (CLT)

www.point1buildingsystems.com

POINT1 BUILDING SYSTEMS

TEN YEARS 2013 - 2023

WHAT IS CLT?

CLT are mass timber panels typically manufactured by glueing together multiple lamellas (laminates) of solid wood in thicknesses from 15mm - 45mm, such as spruce, pine, or fir. The grains of adjacent layers are oriented perpendicular to each other. This cross-laminating process enhances the panel's structural integrity and dimensional stability, allowing it to bear and resist hefty loads and forces.

CLT panels are typically used to form load-bearing Walls, Roofs and floors and are used in many construction sectors. Cross Sections are 60mm - 400mm, Width - Up to 3.20m, Length - Up to 20.00m. (Access / Transport to be considered)

CLT can be concealed internally with plasterboards or be left exposed. A number of other internal facing species are possible should the material be requested exposed. Externally, panels are overclad typically with insulation (EPS / Wood Fibre / Mineral Wool) before finishing with lightweight timber or render claddings. Structural openings, such as doors and windows, are CNC machine cut in a factory within the large panel shapes. This removes the need for separate lintels and posts to be included where required for load transfer, which is common in almost all other timber-based construction systems.

CLT is valued for its sustainability as the timber used in its manufacture comes from a renewable resource. CLT can be produced from smaller trees and lower-grade timber that would often be unsuitable for more common structural timber applications.

Cross-laminated timber (CLT) plays a role in carbon sequestration, which is the process by which carbon dioxide (CO_2) is removed from the atmosphere and stored in carbon sinks, such as forests and wood products, to mitigate climate change. CLT is naturally airtight and has relatively low embodied energy.

CLT construction is known for its speed and efficiency, making it a popular choice in modern building projects.

ACCREDITATION, PERFORMANCE

CLT has a European Technical Assessment, which has been prepared/written by the BBA. CLT is engineer-designed and supported with full structural calculations.

BENEFITS

- High performance, structural integrity
- Energy Efficient
- Creative design capability
- Incredibly low U values as standard
- Inherently Air tight construction
- Asthically & visually appealing
- Complete wall, roof & floor system
- Minimal waste on site
- Rapid installation (saves time & labour)
- Follow on trades start sooner
- Reduced critical path duration
- Not weather dependant
- Low, long term running costs
- Predicted project completion times
- Environmentally sustainable

CERTIFICATES

- Product Standard/Certification
- ETA = European Technical Assessment
- PEFC certified

PEFC PEFC/16-37-2363 By sourcing PEFC wood, Point1 Building Systems Ltd is supporting sustainably managed forests globally www.pefc.co.uk

SITE SAFE ACCREDITED USER

STA ASSUREGOLD

STRUCTURAL TIMBER ASSOCIATION Building offsite solutions in timber

CATG ISO 9001 REGISTERED

SIPS/CLT COMPARISON SHEET

Comparison	SIPS	CLT
Construction Material	Kingspan TEK® SIPS are large panels made of two layers of 15mm oriented strand board (OSB3) autohesively bonded to an insulated core, providing a highly insulated and airtight building envelope.	CLT consists of multiple layers (lamellas) of solid timber that are cross-laminated and glued together to form large, solid panels. CLT can be manufactured using a number of diferring grades and species.
Insulation	SIPS are known for their excellent insulation properties. The insulation is an integral part of the panels which significantly reduces thermal bridging associated with repeating timber stud work.	CLT panels offer some insulation value, depending upon the thickness of the timber layers, however CLT will require additional insulation added externally for optimal energy efficiency.
Construction Speed	SIPS are quick to assemble on-site. They are factory cut, packaged, and are supplied as a kit for on site assembly by our installers and are built into an insulated and air tight layer.	CLT is factory precision CNC machine cut and is delivered to site for assembly. CLT panels are large and installation speeds are fast when compared with other systems.
Airtightness	SIPS are highly airtight due to their sealed design, which can result in excellent energy performance.	CLT can achieve excellent airtightness with proper sealing and taping.
Design Flexibility	SIPS may offer slightly less design flexibility because of their specific panel dimensions, but creative designs are still possible.	CLT panels offer significant design flexibility, as they can be used for walls, floors, and roofs, allowing for various architectural possibilities.
Cost	SIPS may have higher upfront material costs due to the insulation integrated into the panels.	CLT panels can be cost-competitive with traditional construction methods in some cases, but material costs may vary depending on location and sourcing.
Sustainability	Both SIPS and CLT can be sustainable construction methods. CLT is often praised for its use of timber as a renewable resource, while SIPS insulation properties can deliver long-term energy savings.	

It's essential to consider your specific needs, budget, and design preferences when choosing between these construction methods. Also, local building regulations can impact your choice, so it's best for you to consult with a professional architect or builder for your specific project.

GLULAM

Glulam is an engineered wood product renowned for its versatility and strength, making it an ideal choice for various construction applications. One of its primary uses is as support ridge beams for roofs.

Warm roof solution

Vaulted ceilings

Custom roof design

Glulam beams provide exceptional structural integrity, allowing for long, open spans that are crucial in roof design. Glulam ridge beams offer a robust solution for residential, commercial, or industrial buildings, reducing the need for interior support columns and enhancing interior design flexibility.

VERSATILE, FLEXIBLE DESIGN CAPABILTY

GLULAM

www.point1buildingsystems.com

POINT1 BUILDING SYSTEMS

TEN YEARS 2013 - 2023

WHAT IS GLULAM?

In addition to the crucial role Glulam timbers provide to supporting roofs as ridge beams or purlins, Glulam timber plays a vital role in creating portal framing to form large openings. These large and often architecturally striking openings are commonly found in large open-plan living areas as well as arenas, airports, and other public spaces. Glulam's ability to span great distances with minimal visual obstruction ensures the creation of impressive and functional architectural elements. The material's flexibility in design, which allows for curved or arched forms, makes it ideal for crafting unique and aesthetically pleasing portals.

Beyond these applications, Glulam timber boasts a wide array of uses. It is often utilised to create beams, columns, and trusses for various building types, including churches, schools and sports facilities. Its adaptability is especially advantageous when working with demanding architectural designs or seeking sustainable, renewable construction materials.

Glulam timber's use extends far beyond its role as support ridge beams for roofs and portals. Its versatility and strength make it a valuable choice for architects and engineers when designing structures that require large, open spaces and striking architectural elements. Glulam timber continues to be a preferred building material in beams, columns, or trusses due to its aesthetic appeal, structural performance, and sustainability, marking it as a significant player in modern construction practices.

ACCREDITATION, PERFORMANCE

Glulam is engineer designed and supported with structural calculations.

See the UK's first Passivhaus Premium project on Grand Designs.

POINT1 BUILDING SYSTEMS AS SEEN ON TV NORTH COTSWOLDS 2023

GRAND DESIGNS

BENEFITS

- High performance
- Energy Efficient
- Strong and durable
- Flexible design capability
- More robust engineered product
- Fast installation
- Not weather dependant
- Aesthetically beautiful
- More Fire resistant than other
- Easy of installation
- Predicted project completion times

CERTIFICATES

- PEFC certified
- ETA (European Technical Assessment

a Kingspan TEK® Delivery Partner

BBA Approval Inspection Testing Certification — Technical Approvals for Construction — Building System Agrément Certificate 02/S029

PEFC — PEFC/16-37-2363 — By sourcing PEFC wood, Point1 Building Systems Ltd is supporting sustainably managed forests globally — www.pefc.co.uk

SITE SAFE

STA ASSUREGOLD

ACCREDITED USER

STRUCTURAL TIMBER ASSOCIATION — Building offsite solutions in timber

CATG — ISO 9001 REGISTERED

INTERNAL WALL OPTIONS

Point1 Building Systems Ltd can offer a diverse range of internal wall solutions.

We can provide open and uninsulated 89mm timber stud wall panels, which are lightweight yet robust, providing flexibility as non-load-bearing walls for regular partitioning/ interior layout and construction. Interior walls can be extended either to the underside of a floor, the underside of a SIPS roof or the underside of a truss. They can be made to be load-bearing to support the structure where needed.

We also supply and install uninsulated 140mm timber stud wall panels for those requiring added structural width within interior walls, often to create a service wall. 140mm framing offers increased load-bearing capabilities, strength and durability and can also be positioned to support the SIPS wall at roof level.

We also provide party wall panels when required between semi-detached/ terraced houses, enhancing privacy and sound insulation. These walls are designed to comply with (RSD) Robust Standard Details.

89mm uninsulated stud wall panels

CLT interior walls

140mm uninsulated stud wall panels

Party walls

The wide range of internal wall options provided by Point1 Building Systems Ltd helps to meet the diverse construction needs and design preferences of modern building design.

FLOOR OPTIONS

Point1 Building Systems Ltd are experts in providing a wide array of flooring solutions tailored to meet residential and commercial projects' unique needs.

For structural versatility, we offer engineered I Joists, which are meticulously designed to distribute loads effectively. Their enhanced structural integrity is particularly suitable for accommodating large spans, making them a practical choice for various building applications.

Metal web joists are lightweight and ideal for large spaces or when architectural flexibility is required. They also offer ease of installation and are known for their remarkable structural performance. We typically cover our floors with 22mm egger protect decking, which features a robust weather protective layer during construction, which is glued into place as part of the floor specification.

We can also supply softwood solid timber joists in areas with low loadings or restricted construction thickness, such as an insulated terrace.

We offer CLT (Cross laminated timber) floors for projects focused on sustainability and modern design. Its innovative and eco-friendly material enhancing structural stability suits contemporary architectural designs that prioritise strength and sustainability.

The diverse range of flooring options from Point1 Building Systems showcases a variety of solutions catering to varying construction requirements and design preferences.

ROOF OPTIONS

Point1 Building Systems Ltd offers a comprehensive range of structural roof systems. The selection of a roof system depends upon the building's design and type.

SIPS roofs are perfect in areas with specified warm, vaulted roof slopes. A SIPS roof includes insulation as standard.

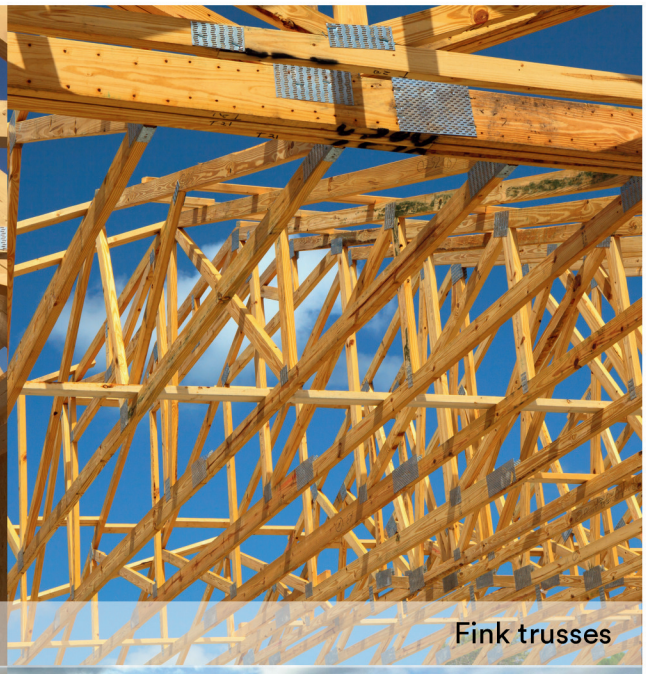
Attic trusses are designed to create additional usable space within a roof, making them perfect for providing a low-cost, functional living area or storage space.

Due to their strength and cost-effectiveness, Fink trusses are a popular choice for standard roofing applications. They provide a stable and reliable framework for roofing materials.

The company's expertise extends to feature trusses, which can add architectural flair to a building, creating a striking focal point in areas like grand entrances or open living spaces.

We also supply flat roofs made from either engineered I joists or metal web joists. Flat roofs are a versatile choice for modern building design and would be insulated externally by others to form a warm roof.

Attic trusses



Fink trusses

Feature trusses

Flat roofs

The company's ability to provide various trusses and roofing solutions highlights its commitment to offering a comprehensive suite of construction services for diverse project requirements.

POINT1
BUILDING SYSTEMS

DESIGN PROCESS

"We can't praise your team enough for the service, support and professionalism you demonstrated throughout our relationship with you. From architect's planning drawings through interpretation, structural design, manufacturing specification and review, you were there to address our concerns no matter how small they may have been."

- Panos and Lina, Bicester

WHAT HAPPENS NEXT?

As a basic guide, we quote approximately 10 - 12 weeks from order placement to work commencing on-site. However, each house is bespoke, the complexity of the build varies, response times (P1 & client) and our work schedule can vary depending upon many factors. We recommend discussing your specific project requirements with a Point1 specialist.

Your designs

Send us your initial drawings, preferably dimensioned plans, sections, elevations and a site plan if possible.

Quote creation

After discussion we will prepare your bespoke quotation and a suitable specification is proposed.

Order placement

Once the order is placed, an initial payment is made in order to commence the design and engineering process. We will also require a frozen set of drawings from your architect to commence works in .dwg format.

Approval stage

Drawings are sent for you to check and agree on until the time comes to approve the final designs - supported by comprehensive drawings and 3D models.

Manufacturing

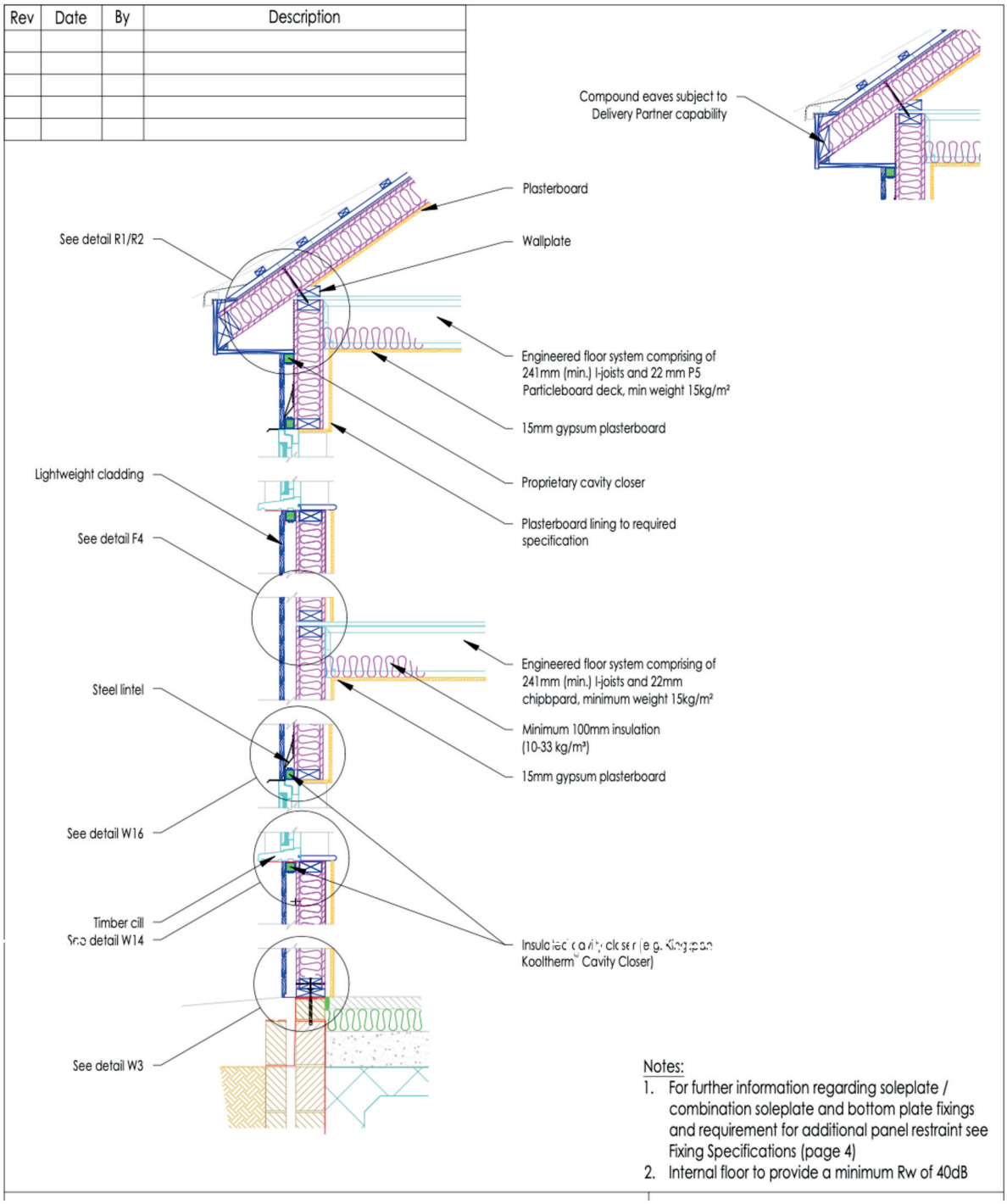
Once an approved stage is reached, we typically require 4 - 6 weeks before the commencement of our site works.

Build process

The team and materials arrive on site and we start building your project. Once it's complete we carry out a multi-point checklist to ensure everything is in line with KingspanTEK® and STA standards.

For further information visit www.point1buildingsystems.com

TYPICAL KINGSPAN TEK® CROSS SECTION



This is a typical cross-section through a Kingspan TEK (SIPS) building, showing a lightweight ventilated external timber cladding. This exposes a number of simple SIPS construction details which perform well in terms of thermal bridging. The application of a secondary insulation layer mitigates thermal bridging. A comprehensive range of SIPS standard details, including corresponding psi values, are available. Contact Point1 Building Systems for more details.

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COMPLETED PROJECTS


Photo courtesy of Norfolk Pro Build

Visit our website for further testimonials and case studies

www.point1buildingsystems.com

E-mail : enquiries@point1buildingsystems.com

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GRAND DESIGNS

Unit 5 & 8, Knights Park, Hussey Road, Battlefield,
Enterprise Park, Shrewsbury, Shropshire. SY1 3TE

Telephone - 01743 460066
E-Mail - enquiries@point1buildingsystems.com

www.point1buildingsystems.com