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Taking a fresh approach to home building

Top marks for replacement SIPs home

As far as SIPs builds go, 'Hawkwind' has it all. This West Yorkshire home is thermally efficient, stylish in design and has a 'room in the roof' too.

Bill & Carol Haygarth's previous home was cold, draughty and expensive to heat and with its hillside location, was exposed to the elements and difficult to maintain. So, after approaching architects Halliday Clark Ltd who suggested a SIPs build, the couple's vision for an eco-efficient, low maintenance replacement home, designed to Passivhaus standards began taking shape.

The initial drawings included some complexities for SIPs design which influenced the effects of thermal bridging e.g. a basement/garage, passenger lift, cantilever balcony, decorative internal and external oak frame and extensive glazing. However, through careful design and diligent value engineering by SIPS@Clays, solutions were applied to ensure that thermal bridging was minimal.

The hillside plot above a main road could have presented many challenges however, the off-site fabrication of SIPs meant it was the perfect choice for this tricky site. With fewer site deliveries than traditional construction methods, the SIPs build minimised waste and reduced local environmental impact; key requirements for client and Passivhaus design.

With work scheduled over the winter, a speedy build was essential. Unlike traditional construction, a SIPs build is not reliant on fine weather and with a predictable build programme, Hawkwind was water-tight in just four weeks.

The highly efficient SIPs home has 250mm of insulation, supplementary to the 142mm Kingspan TEK™ panels, to give low overall U-values. Combined with an MVHR system, triple glazing and Photovoltaics, heating demand is kept to a minimum, which helped to achieve SAP rating A.

With many design complexities, challenging location and exacting brief, Hawkwind is an exemplar of the versatility of SIPs and demonstrates why this modern method of construction is a superior method of construction.

Steeped in construction history, SIPS@Clays was launched in 2003 to take a fresh approach to housebuilding. Since then we've designed, fabricated and erected over 1500 SIPs projects, and in the past 16 years have worked on residential, commercial and industrial projects across the length and breadth of the UK.

Back then we recognised the many benefits that building with SIPs offered compared with traditional construction and after becoming the original Kingspan TEK™ Delivery Partner, we've grown into one of the leading SIPs suppliers in the country.



"It has been exciting to see the growth in popularity of SIPs over the years and we're extremely proud to have been at the forefront of this innovative method of construction."

The simplicity of SIPs

Speedy, space efficient and sustainable, a SIPs building system delivers a host of benefits that make it a superior method of construction.

Here at SIPS@Clays we love the versatility of SIPs and in particular the Kingspan TEK™ Building System. In short, the system provides a simple yet highly effective construction solution that offers energy efficiency, design flexibility, speedy builds and maximises liveable space.

Made up of two sheets of 15mm oriented strand board (OSB) with a rigid insulation core sandwiched between, SIPs are a high performance building system that is typically used for the external envelope i.e. external walls and roofs. Perfect for tricky, small sites, ideal for homes designed to Passivhaus standards and can be constructed in all weathers, we think that SIPs has it all.

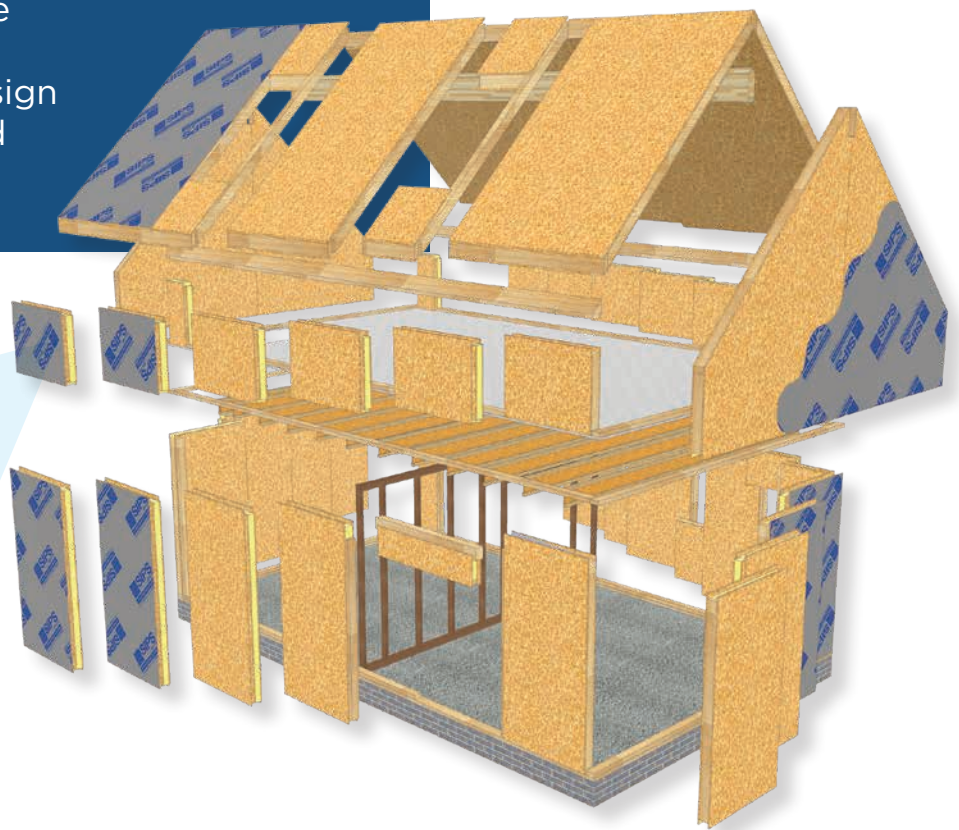
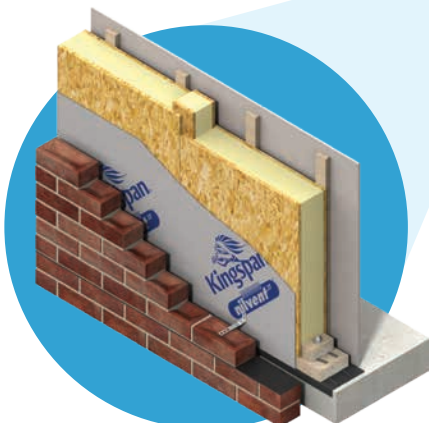
We understand that if you're a self-builder, the prospect of building your own home can be daunting and for developers, the decision to move from traditional to modern methods of construction can be a tough one, however the simplicity of SIPs, in our opinion, really does take some beating!

"The advantages of speed, space, simplicity and of course sustainability are unquestionable and with environmental issues dominating the construction industry, it's clear that SIPs and especially the Kingspan TEK™ Building System is the ideal building solution for now and in the future."

Andy Porter, Partner, SIPS@Clays



A simple yet highly effective construction solution that offers energy efficiency, design flexibility, speedy builds and maximises liveable space.





Cantilevered home is a triumph of SIPs design

Unique, creative and environmentally friendly, this cantilevered SIPs home offers a great example of the Kingspan TEK™ Building System.

The versatility and strength of structural insulated panels has resulted in some original and exciting builds for SIPS@Clays and the Watershed in Strathblane is a great example.

The team worked closely with architects ataSTUDIO to realise the clients' vision and fulfil their goal to create an environmentally friendly home at a budget, that takes full advantage of its idyllic location and the stunning views of the Scottish countryside. With impressive design elements incorporated within this ambitious project, a truly unique family home has been created.

SIPS@Clays love a challenge and the complex design elements of this cantilevered SIPs house were definitely that! The three storey SIPs home was designed to sit over a cliff, with a large 'overhang' over a picturesque waterfall – the complexities of this project were many and the potential for error was great. However the SIPS@Clays team pulled out all the stops and by applying their vast technical knowledge and construction know-how, they rose to the challenge.

With unrivalled strength, stability and durability, the Kingspan TEK™ Building System was ideal for this build. The system's composite structure gives a stiff, strong and reliable response when faced with carrying weight. This allowed for both the cantilevered overhang and the double-height living spaces which the clients love so much.

SIPs also helped with the financial aspects of the build, with final costs coming within £500 of their original budget - a great feat given the complexities of the project. The speedy construction of the SIPs structure enabled follow-on trades to begin much sooner than would have been possible with a traditional brick and mortar design which also contributed to cost efficiencies.

The client also wanted their new home to be eco-efficient to reduce monthly energy costs together with a reduction in their carbon footprint. A key feature of SIPs is its superior airtightness and thermal performance which was a significant factor in the clients achieving their dream lifestyle.

All in all this beautiful Scottish cantilevered home is a triumph of SIPs design.

The goal was to create an environmentally friendly home at a budget, taking full advantage of the stunning views of the Scottish countryside.



"We've designed complicated and unusual houses to challenge most construction teams but SIPS@Clays has delivered their package each time, just as we wanted and in an efficient, engaging process. A great team to work with for a SIPs package."

Graeme Andrews, ataSTUDIO





“From the ease and speed of build to the airtight, thermally efficient qualities a SIPs build offers, this modern method of construction is far superior to blockwork.”

Robert Grayson, R E Grayson & Sons

What the architect says...

Self-builders want flexibility and fresh ideas with absolutely no compromise on style and design - and that's exactly what they get with a SIPs build.

Discerning self-builders are providing their architects with precise and exacting briefs. They want stylish, open plan living, eco-efficiency is a must, they want a low maintenance home that is future proofed and adaptable to lifetime living.

Self-builders, more often than not have done their research, they know about the superior thermal qualities of SIPs, they understand what thermal bridging is and usually, they have a rough idea what is required to build to Passivhaus standards.

Whilst here at SIPs@Clays we have our own in-house design department, we also work closely with our clients' architects; some of whom have never designed a SIPs home before and some who, recognising and championing the many benefits of the product, specialise in SIPs design.

Very popular with room-in-the-roof designs, architects see the value of increasing livability for their clients; they love the surety of a predictable build programme, the off-site precision engineering and of course, the substantial eco-benefits. These, together with the exceptional design flexibility of SIPs means this superior method of construction is becoming a firm favourite with architects and designers who want to push the boundaries of design.

What the developer says...

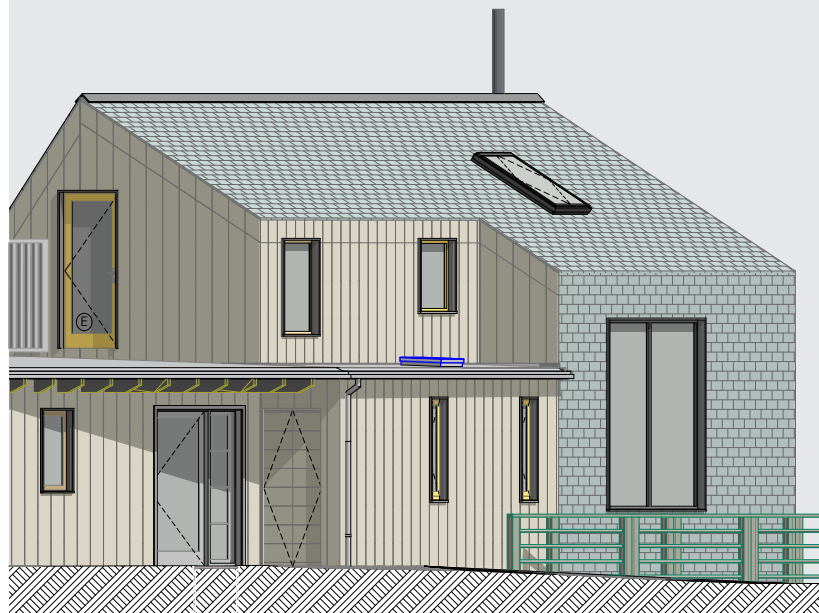
We've seen the number of developers using SIPs as their preferred construction method increase four fold, and with ever demanding efficiency and productivity requirements, it shows that SIPs construction really does stack up.

Over the past 16 years, we've worked with developers on many residential and commercial developments. However in the past two years, we've seen a major increase in developers who have heard about the benefits of SIPs and want to use the system as an alternative to breeze block construction.

With many factors to consider, such as the superior energy efficiency inherent within a SIPs system, speed of build, minimal waste, maximised internal space and efficiency of build, developers are turning to SIPs to ensure that they are utilising the most efficient and productive practices. They want to deliver a premium product with a healthy return.

These obvious advantages, together with the knowledge that the Kingspan TEK™ Building System is NHBC approved and exceeds the levels of efficiency demanded by building regulations, are persuading more and more developers to embrace SIPs construction.

So, if you're a developer and want to discuss switching to SIPs then speak to one of the SIPs@Clays team and we'll happily talk you through starting your next development with SIPs.



“We're seeing more and more clients choosing SIPs builds as a result of its cost and energy efficiency, superior levels of insulation and airtightness, together with speed of erection on site. We anticipate off-site construction, such as SIPs becoming increasingly popular in the future.”

Rod Hughes ARB RIBA, Director, 2030 Architects Ltd

Working with SIPS@Clays is always a pleasure. Their product knowledge, design solutions and realistic approach to any project, makes my job as contractor and client an easier one.



Michael Maughan, Client



It just had to be SIPS

As a builder/joiner by trade, Michael was already very familiar with the benefits of building a SIPS home, so when the time came to build a new home for himself and his family, he knew it could only be built using a SIPS building system.

The beautiful four/five bedroomed detached home, nestled in a Roman village in Northumberland is a triumph of SIPS design. Working with EDable Architecture, SIPS@Clays designed, fabricated and installed the superstructure for this remarkable contemporary build - which busts the often held myth that SIPS designs are bland!

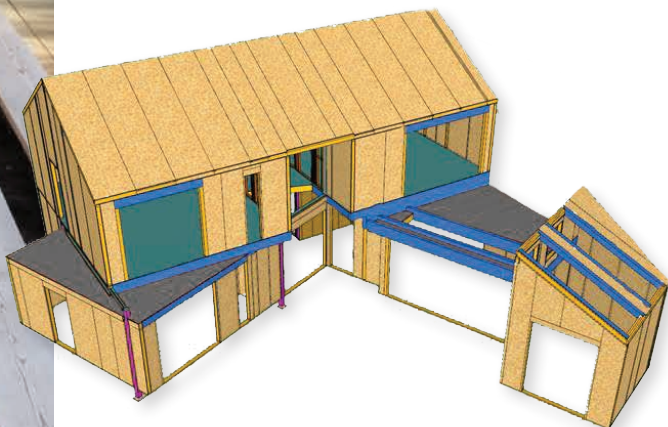
The 350sqm home has been designed around a courtyard, carefully located to provide maximum screening between house and neighbours. With a traditional frontage, which belies the creative, multi-levelled rear, clad in timber and zinc, the thermally efficient home presented a number of design challenges for the team at SIPS@Clays.

The complex design meant that the in-house design team at SIPS@Clays needed to adjust elements of the roof in order to convert the drawings to SIPS friendly designs. Not only did these adjustments bring value engineering to the projects but also built in solutions to minimise thermal bridging within the multi-levelled standing seam roof.

Perfect for tight sites such as this, the Kingspan TEK™ Buildings System was precision engineered off-site at our factory in Skipton. This kept site traffic to a minimum, reduced site waste and reduced the number of trades needed to complete the build.

Following delivery to site it took only three weeks for the SIPS structure to be installed so the external and internal work could begin precisely to the build programme.

This large family home really demonstrates the flexibility that a SIPS build offers and with a resounding endorsement from Michael, his SIPS build is a perfect example of both his workmanship and the many benefits of SIPS.





It all begins with the design

Since being established in 2003 SIPS@Clays has evolved. We're not just 'another' supplier of SIPs panels; we provide a complete service from initial design and fabrication right through to installation.

Unlike other SIPs suppliers, we have our own in-house design studio where we create fabulous designs for new homes and commercial structures that push the boundaries of SIPs design.

Headed up by Darren Barnes, who has over 12 years' experience designing with SIPs, our team of designers either work directly with you to plan your SIPs home right from the drawing board, or alongside your chosen architect to ensure that traditional plans are seamlessly translated into SIPs friendly designs.

Whilst building with SIPs is becoming more and more popular, there are many architects who are still unfamiliar with designing for SIPs construction and as such, our in-house technical design know-how is invaluable.

We are able to apply our years of experience within the traditional construction industry to support our vast SIPs knowledge and create plans that deliver the very best designs, exactly to clients' specifications.

Darren and fellow designer Stefan, begin the process by discussing your aspirations for your new home.

"We advise areas where value can be added to the project, such as a room in the roof," said Darren. "We'll discuss the benefits of building with SIPs panels, and in particular the market leading Kingspan TEK™ Building System, especially if you're aspiring to Passivhaus Certification; and we always apply value engineering solutions to ensure that you achieve the very best home for your budget."

"It's a myth that SIPs homes are visually 'boring'. Designing with SIPs offers many options and our job is to ensure that our clients know exactly what can be achieved. Our approach means you don't have to choose 'form over function' and you can still reap the many benefits that building with SIPs offer, whatever your design."

"The flexibility of SIPs, coupled with our in-house expertise means that we relish the challenge of architectural complexities and never shy away from a project because the design doesn't initially lend itself to SIPs construction," says Darren.

Whilst the popularity of building with SIPs is growing, there is still limited understanding of how versatile the system is and we like nothing more than demonstrating to clients how, with a little design flair, we can turn 'boxy and boring' into grand designs!

We approach each project with a 'can do' attitude and clients are always delighted with the results. We thrive on the challenges that are often presented when translating traditional architects' drawings into SIPs specifications and will always suggest improvements wherever possible.

"The service the SIPS@Clays design team provided in taking our design and transferring it into the 3D modelling and fabrication system was of enormous help. The reassurance they gave us from the outset was most comforting, and turned out to be very well-founded. The whole team have been an absolute delight to deal with throughout."

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In the face of adversity, a SIPs house is built

When their original home in the heart of the Lake District National Park, was affected by the devastating floods in 2009, the clients decided to build a brand new SIPs home above the flood level, in the garden of their existing house.

The couple needed a fully accessible home to accommodate themselves, their family and a live-in carer, that took full advantage of the beautiful location amongst semi-mature oak and beech trees.

On a tricky site, with woodland preservation orders, the family's new home needed to be eco-efficient, have minimal impact on the local environment and also reflect the stunning surroundings of the National Park. So, designed with SIPs in mind, this ambitious project made full use of the many benefits this modern method of construction offers - perfectly meeting the clients' brief and their vision for their new home.

Working closely with 2030 Architects on this complex project, SIPs@Clays' in-house design team translated the ambitious drawings into SIPs friendly designs and following pre-fabrication at our factory in Skipton, the Kingspan TEK™ Building System was delivered to site.

The off-site construction of SIPs meant that site traffic was kept to the bare minimum. With fewer trades needed and less deliveries required, potential disturbance to tree roots and vegetation was significantly reduced. Taking just short of two weeks for installation, the superstructure was ready for follow-on trades to begin work in no time.

"This is a fabulous SIPs home in a stunning location," said Andy Porter, Partner, SIPs@Clays.

"It was a complicated project with varying angles and roof pitches but our in-house design team took a lot of time to ensure that everyone was happy with the draft drawings and this has really paid off. The time we spent on the design stage meant we were able to manufacture a SIPs kit that was accurate, relatively simple to construct and took only 13 days to erect on site."

Timber clad and beautifully in keeping with the character of its woodland location, this low impact family home is thermally efficient, requires minimal heating and is a great example of the all-round versatility of SIPs.



Using the latest in design technology, we design and produce interactive 3D models of each project... in essence; we bring your SIPs project to life. Our bespoke models allow you to view your new SIPs home from every possible angle, accurately illustrating size, scale and structure. When working with the most complex of designs, with challenging aspects that may be difficult to visualise from 2D drawings alone, virtual imagery allows you to view the total design impact and make adjustments prior to fabrication.

With client consultation, we then make the necessary revisions to the drawings and when everyone is happy and approval is received, we can produce the production drawings for the factory to begin fabrication of your new SIPs home.

Darren concludes: *"Designing and building your dream home is no doubt daunting but we are always on hand to talk to you about a SIPs project and aim to make the process as easy as possible".*

So, if you have plans that you'd like to discuss, send them to sips@clays.com and you can get to know Darren, Stefan and all the SIPs@Clays team, a little better.



Working with us...

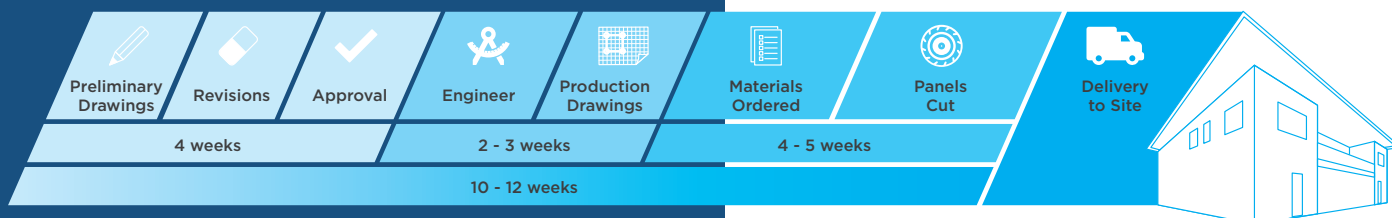
From initial design and fabrication right through to on-site installation, we carefully guide you through the process.

Whether you're a self-builder or developer, our team of in-house experts work side by side with you, your chosen architect and your main contractor to offer technically sound, straightforward solutions that are individually tailored to meet your needs. In short, we create SIPs homes that precisely meet your brief.

Using the Kingspan TEK™ Building System, we precision engineer your uniquely designed SIPs system at our factory in Skipton, North Yorkshire. Using the latest in cutting technology and in a streamline process, the panels are cut, stacked and accurately numbered, wall by wall and roof by roof, ready for delivery and offload on site. By using our own BBA certified installation teams, who are highly skilled craftsmen and accredited in SIPs installation, we quickly and efficiently build your SIPs structure, ready for onward trades - whatever the weather.

With everything under one roof, we really do offer a fresh approach to home building and provide an end to end service that we think, is hard to beat.

...Couldn't be easier



Tony Hurley, Client

Do you have plans you'd like to discuss?

Send them to sips@clays.com for a speedy quotation.



A fresh approach to home building