

FRAME

A low-angle, upward-looking photograph of a dense forest. The image shows numerous tall, slender trees with dark trunks and vibrant green foliage. The perspective is from the forest floor looking straight up, creating a radial pattern where the tree trunks converge towards the center of the frame. Sunlight filters through the canopy, creating dappled light and shadows. The overall mood is serene and majestic.

TAYLOR LANE

The history of Taylor Lane

Barrie Lane

1982: Our Beginning

In November 1982, Colin Taylor and Barrie Lane started Taylor Lane Timber Frame Ltd. Each with a decade of timber frame experience, they began building frames in a small factory unit in Hereford.



1990s – New Markets

With a reputation for high-quality self-build and one-off properties, the 1990s saw us extend our offering, opening up to the commercial sector, providing kits for developers, contractors and local authorities. The commercial market has since grown to become our core business.

1987 – Our First Factory

1987 saw us build our first purpose-built factory and offices on Chapel Road, Hereford. This remains our main site today. The office has been extended over the years to accommodate our 60+ office staff and the factory is now our steel fabrication building.



Colin Taylor

2000s – New Factories

In the early 00s we purchased two further sites, Thorn and Gatehouse, also on the Rotherwas Industrial Estate, Hereford. Aiding our expansion, these two factories remain key in our production process.

Present – Expansion

Workforce – 150 employees

Manufacturing space – 50,000m² over six acres + additional development site in Hereford. Expansion into South Wales with Taylor Lane (Wales) Ltd. Investment in manufacturing equipment and training. 2500 timber frame units manufactured each year.

Welcome to Taylor Lane

Building Dream Homes Since 1982

With decades of experience,
Taylor Lane will be your partner
throughout your self-build journey.
With more than 25,000 timber frame homes
under our belt, we have the expertise
and knowledge to ensure a problem-free
self-build experience.



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“ We had no hesitation in our decision to build using a Taylor Lane Frame ”





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How building with timber frame can help create a high-performance house packed with charm

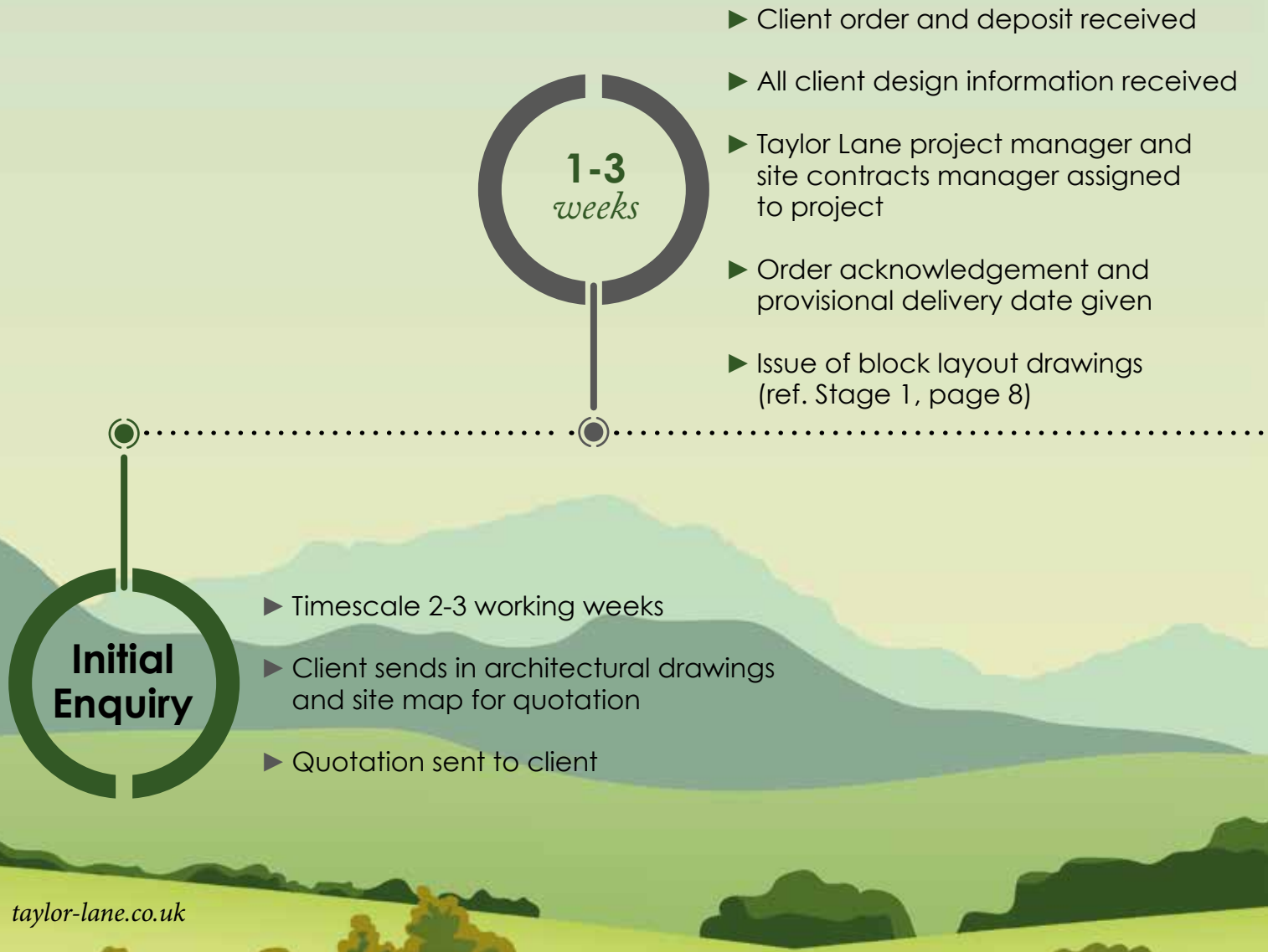
34 Checklist

Advice and recommendations for planning your timber frame self-build journey

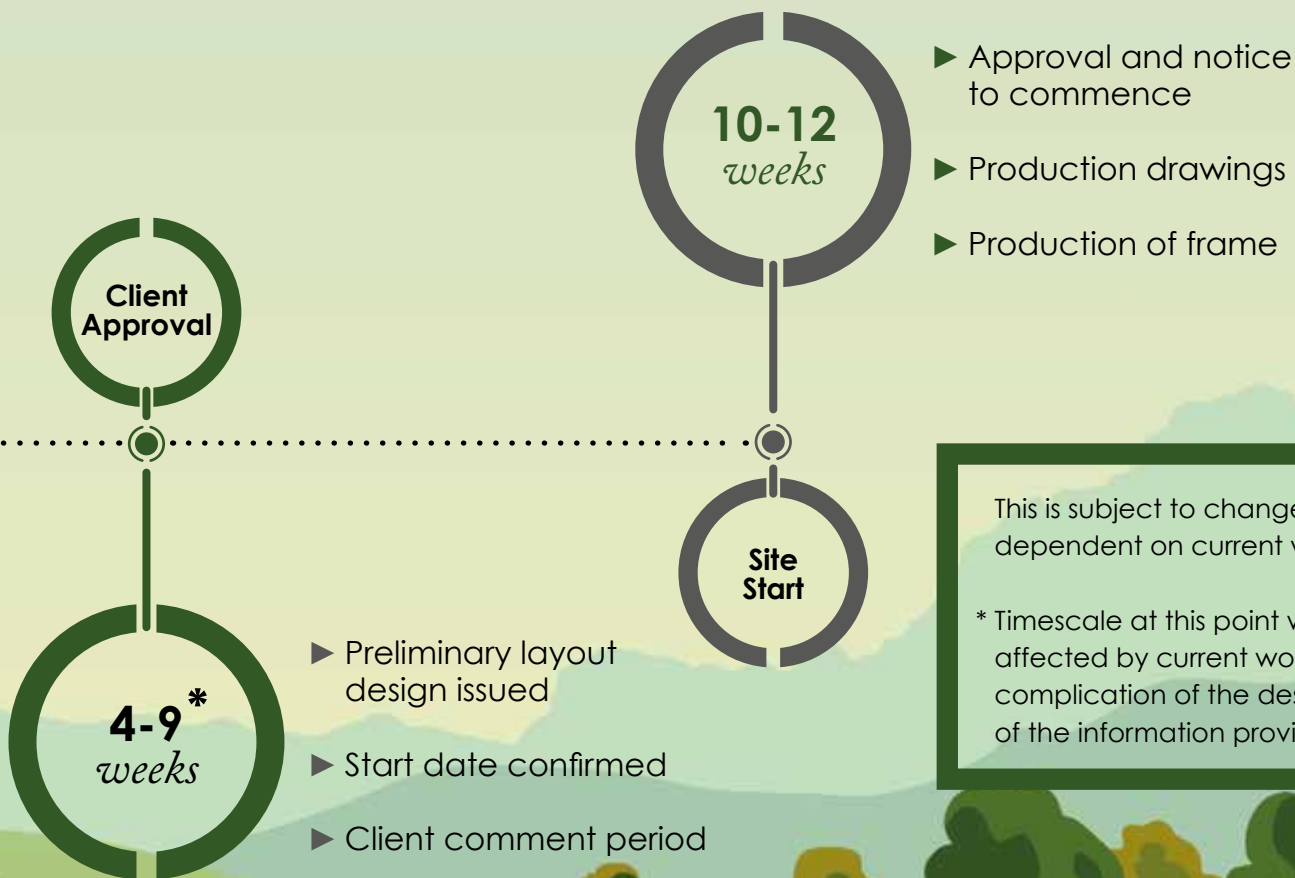
“ This is the first property we have owned in which the temperature is constant in whichever room you go ”



The Timber *Frame Journey*



“*The team at Taylor Lane were great to work with – from initial meetings, right through to the drawings of the frame and the guys onsite who put the frame together...*”
Self-builder, Tom Webb (page 28)



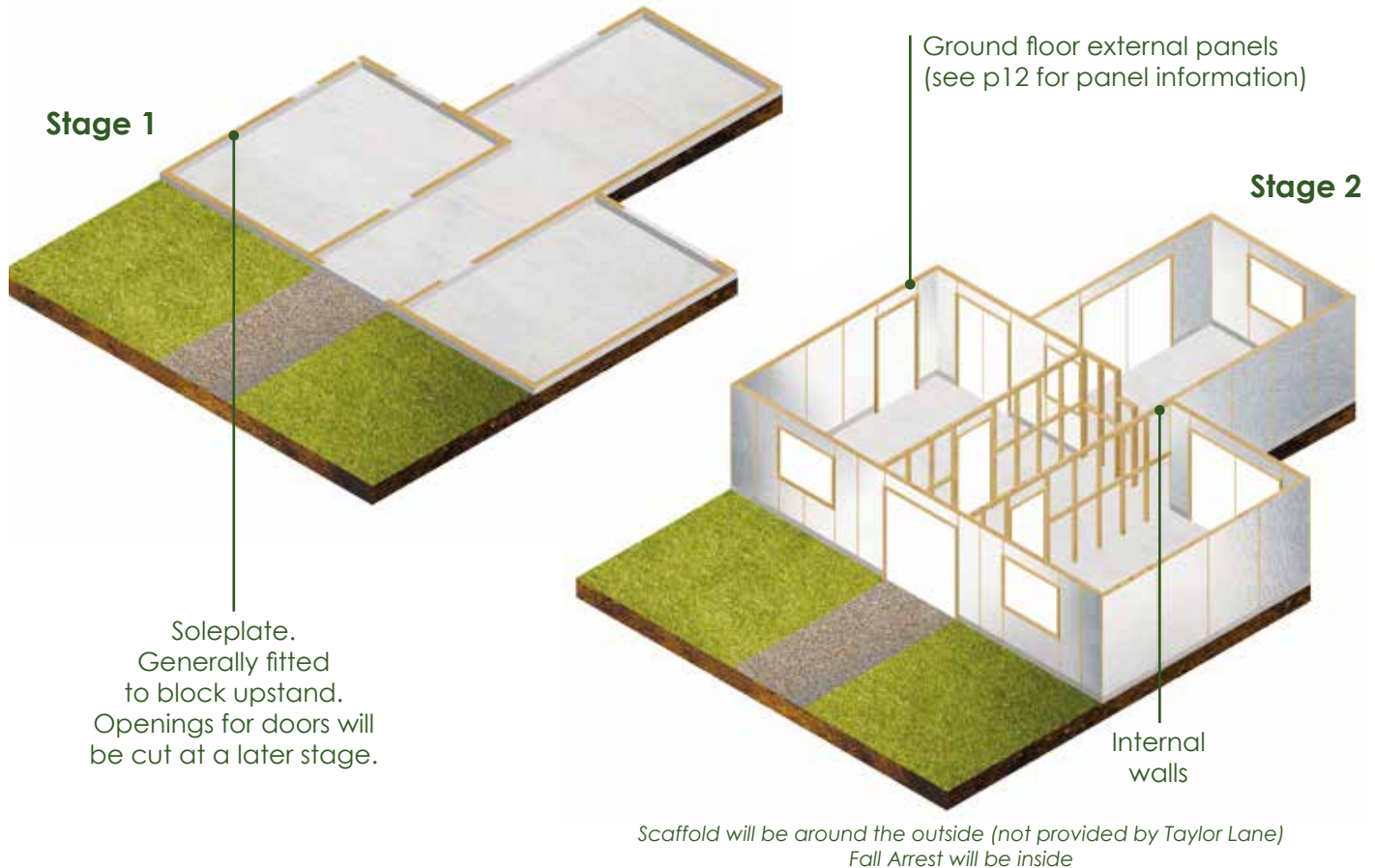
Timber Frame Explained

Timber frame is an appealing construction method for many selfbuilders but what exactly is it and how is it constructed?

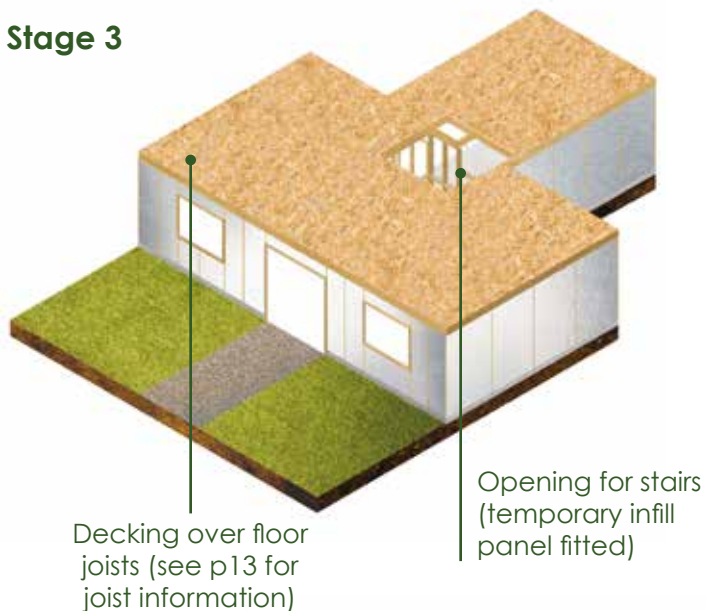
Firstly, modern timber frame is different to traditional timber frame construction. It is an off-site method meaning that many of the elements are precision-engineered in a controlled factory environment.

A typical timber frame includes the walls, floors and roof. The structure is built using manufactured panels which often include the insulation and membranes needed to achieve the desired level of performance (factory fit or site fix). Selfbuilders can choose between open or closed panel systems (see page 12).

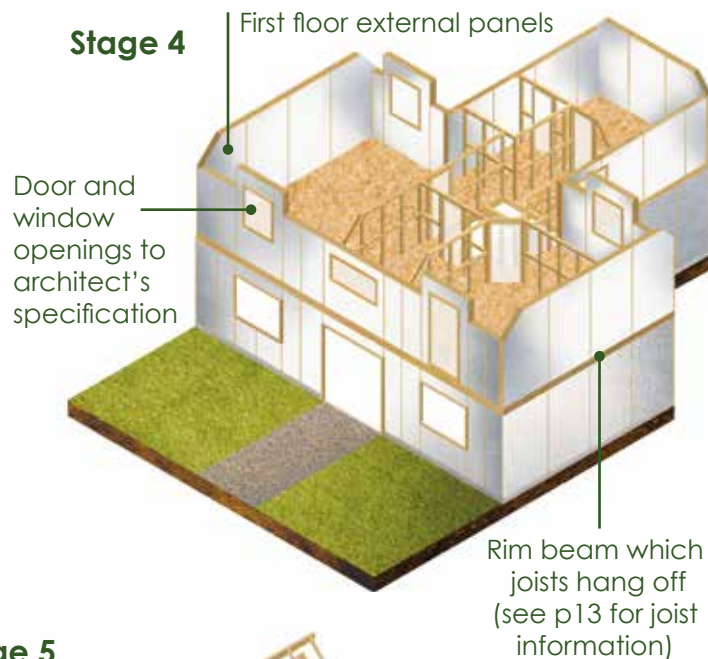
These five stages show how a timber frame is constructed, from soleplate to roof top, and highlight key elements or optional details e.g. dormer windows.



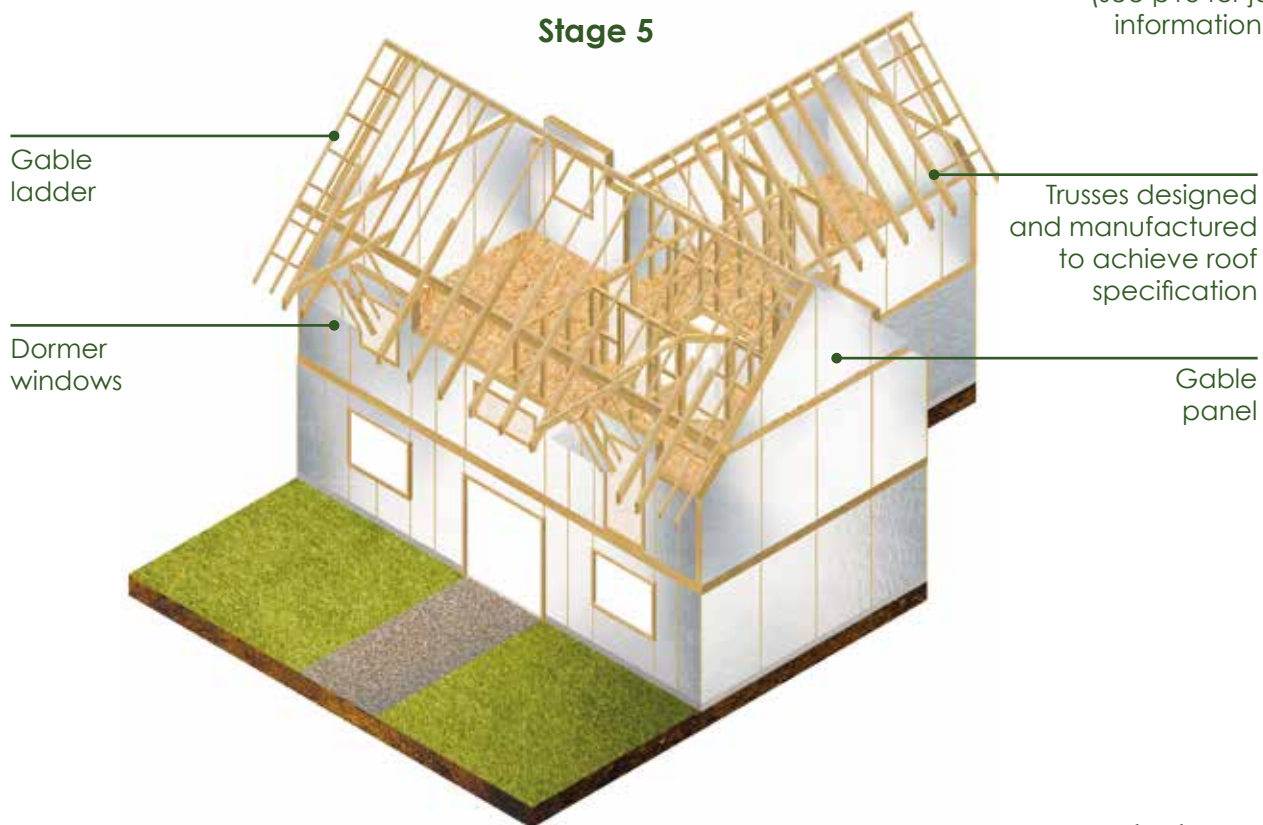
Stage 3



Stage 4



Stage 5



THE **BENEFITS** OF TIMBER FRAME **CONSTRUCTION**

Timber frame is an off-site construction method. This means that the frame is made in a factory, with elements such as wall and floor panels completed in a controlled environment, unhampered by variable weather conditions.

This saves time onsite and enables a quick and accurate build. It also means you can plan, making costing more predictable.

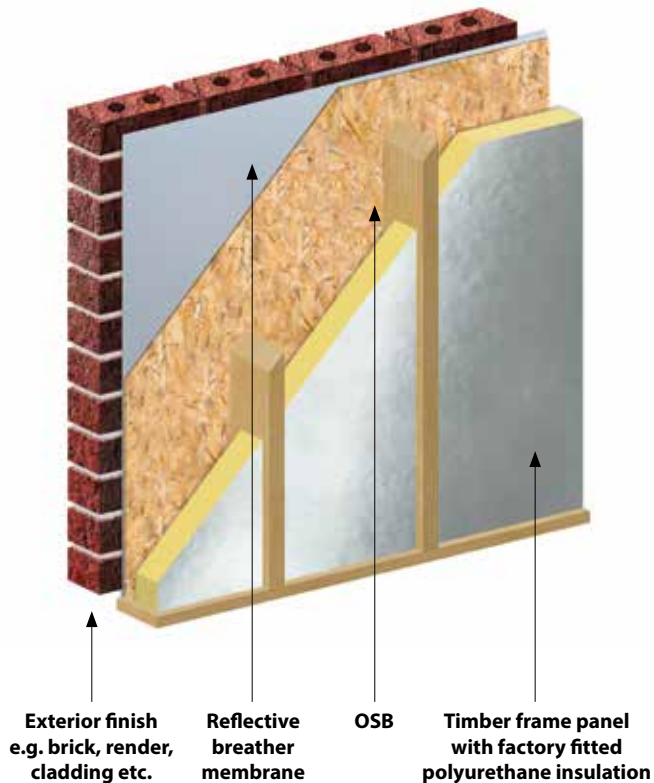


* Roof trusses are covered and ideally, windows / glazing installed; it doesn't include external cladding, brickwork etc.

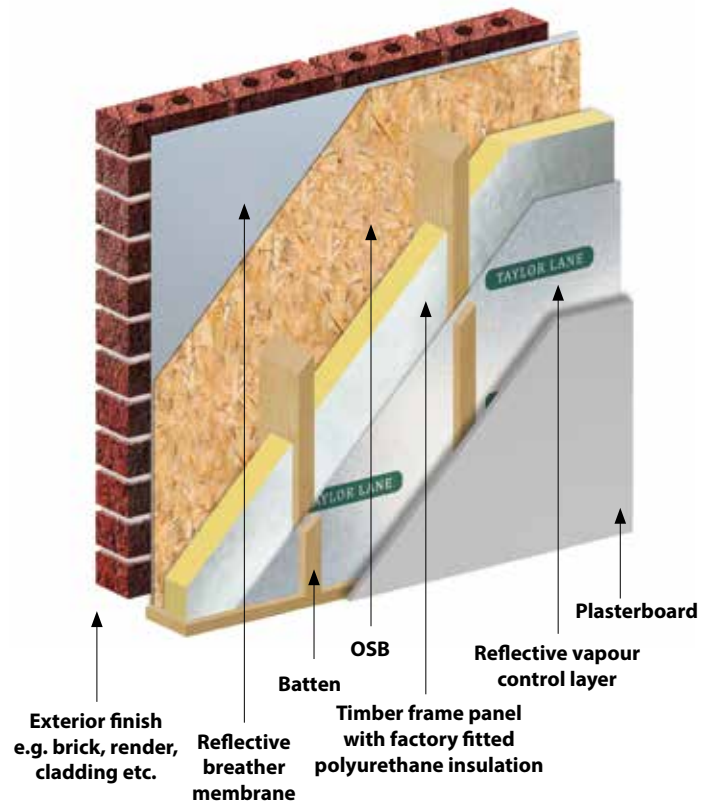
your TIMBER FRAME

PANELS

Open Panel System



Closed Panel System



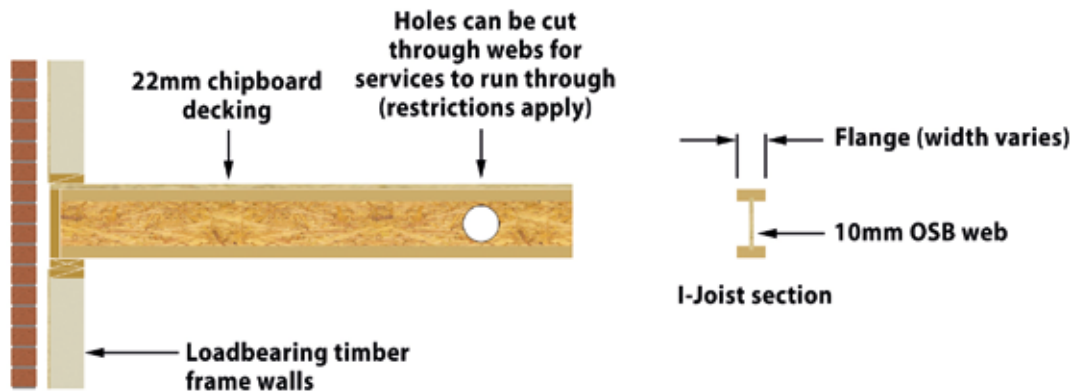
A timber frame kit comprises several key elements – wall panels, roof trusses and joists.

Selection is often determined by the design of the property. The wall panel makeup is determined by the level of thermal performance (U-value) required.

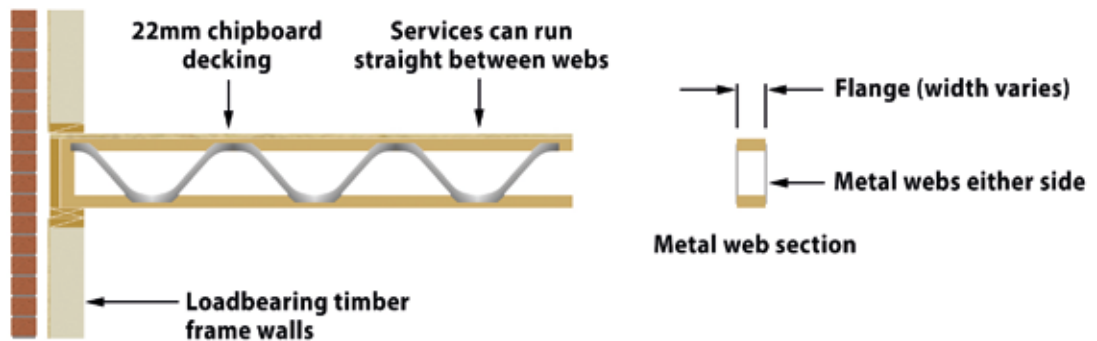
Taylor Lane offers a variety of **panel systems**, **roof trusses** and **joists**.
Here's a brief guide to the products available.

JOISTS

I-Joist



Metal Web Joist

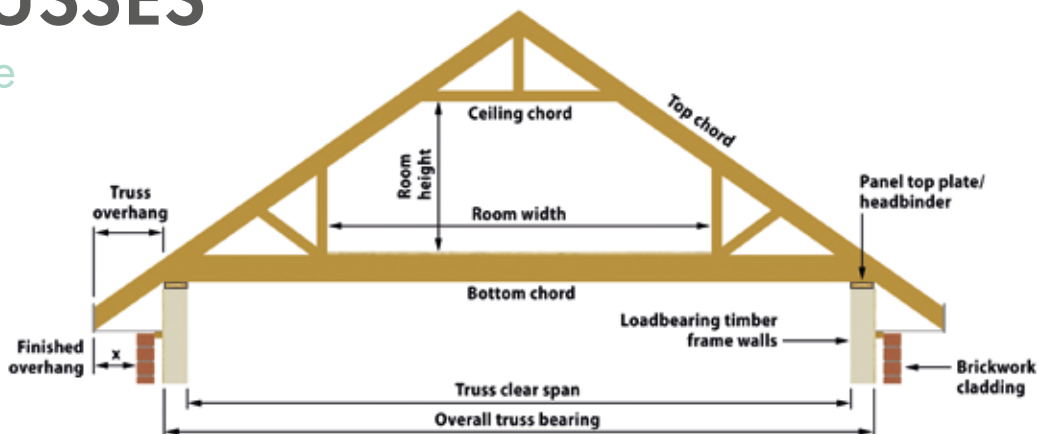


you ARE GOING TO NEED A ROOF

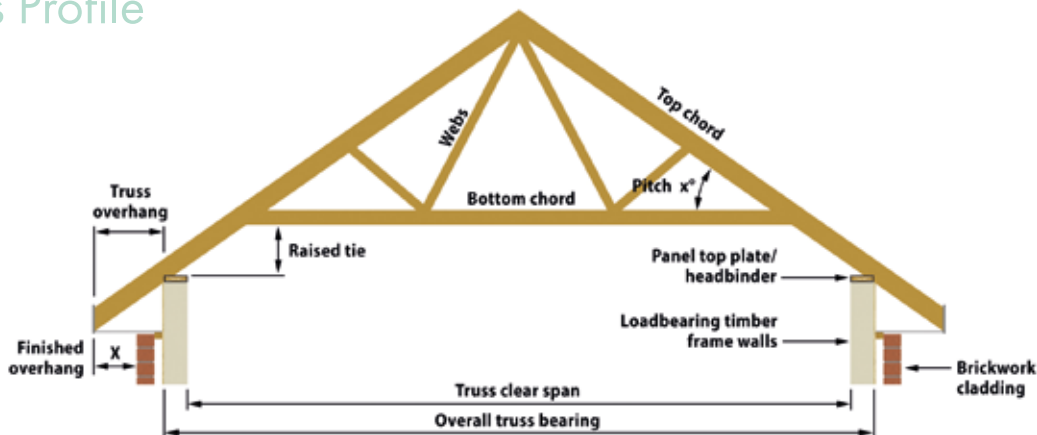
Here are a few of the most common types:

ROOF TRUSSES

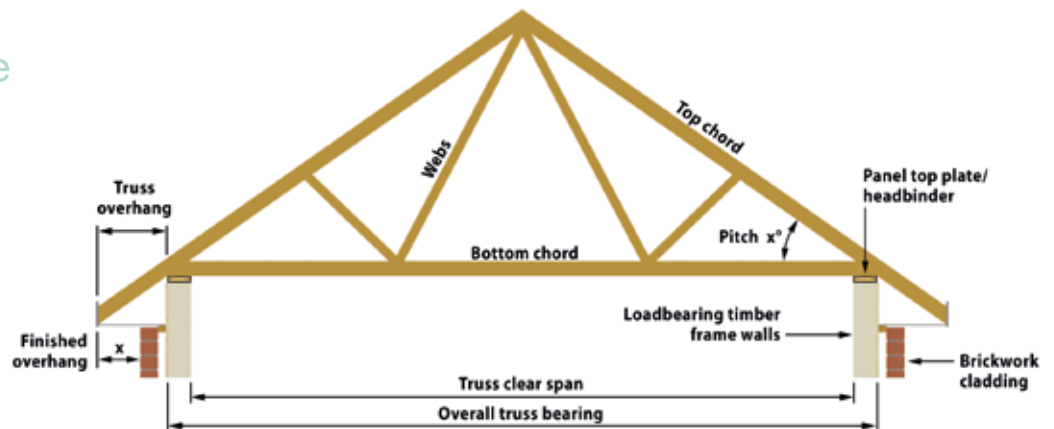
Attic Truss Profile



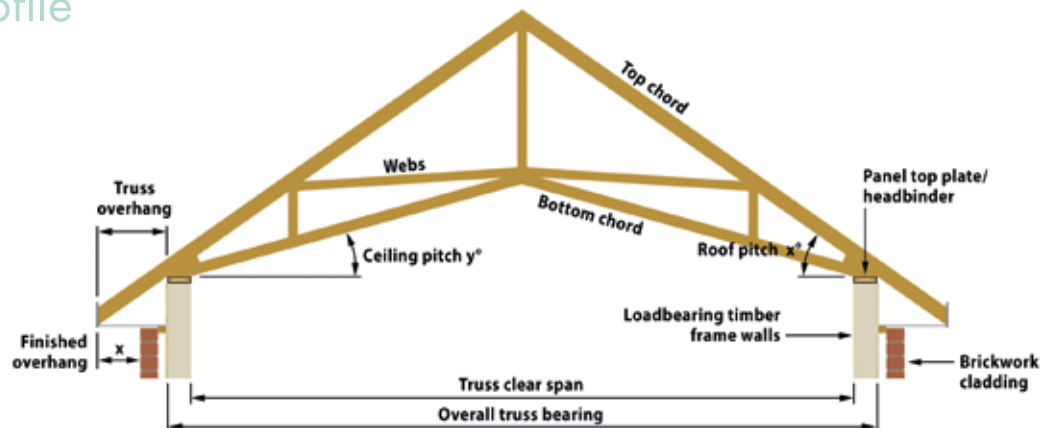
Raised Tie Truss Profile



Fink Truss Profile




Scissor Truss Profile





Green & Happy Homes



Timber frame is generally considered the most **environmentally friendly** building material when compared to brick, steel and concrete; it has the **lowest energy consumption** and carbon dioxide emissions. The natural properties of timber also make it the ideal choice for those seeking a **naturally happier home**.



CO₂
Savings

Wood products are low carbon materials.

They can help reduce CO₂ in the atmosphere and help slow climate change.

For every cubic metre of wood used instead of other building materials, 0.8 tonne of CO₂ is saved from the atmosphere.

A typical 100m², two-storey detached timber frame home contains 5-6 cubic metres more wood than the equivalent home built using traditional methods.



Trees capture harmful CO₂ from the atmosphere and store it as carbon.

When harvested, that wood is used for products, and those products store carbon for that product's entire lifecycle.

After being harvested, we plant more trees and the cycle of capturing CO₂ continues.' woodforgood.com.

Carbon Capture



Sustainable Option

As a Structural Timber Association (STA) Assure Gold member we encourage the use of timber from PEFC or FSC certified sources.

We recommend choosing certified timber, whether that's locally sourced from a FSC certified forest or further afield; look out for FSC, PEFC, SFI, CSA and MTCC certified sources.

A reputable timber supplier should also provide a full chain of custody. Wood for Good, the timber industry's campaign to promote the use of wood in design and construction, says that

'sourcing wood from sustainably managed forests helps encourage biodiversity. It increases forestation and maximises CO₂ absorption.'

For those self-builders wishing to promote wellness and well-being in the construction of their home, then you may consider the principles of biophilic design.

Timber is one resource which can generate a positive biophilic response. Generally associated with accessories and furniture, this also applies to the structure and fabric of the building.

With financial and environmental benefits, timber frame construction works on many levels to boost mental and physical well-being.



Biophilic Design



As a timber frame manufacturer, we are proud of our responsible handling of waste timber.

Current wastage in the production of all our products is between 8-12% waste. We are constantly working to reduce this further still with investment in optimised cutting technology.

100% of our waste is diverted from landfill, with 60% being recycled and the remaining 40% incinerated to produce electricity. Our non-treated waste timber is used to heat

our factories. Not only do our efforts benefit the environment they also reduce site waste. This cuts down the number of skips required onsite, and ultimately, saves you money.

Waste Management



Timber is a natural insulator and so, when used as a build method, it can help to reduce running costs and energy bills.

The property will remain warmer throughout the winter and stay cooler during the summer months - it can heat up quickly and retain that heat for longer.

One of the best ways to understand the thermal performance of the timber frame is to review its U-value.

In simple terms, a U-value describes how well or badly a building component (i.e., roof, wall or window) or material transmits heat from the inside to the outside. For a comfortable home, with relatively low heating requirements, aim to keep the U-values as low as possible.

Limits are set out in Building Regulations; external walls should never exceed 0.30, for example.

It is far easier to achieve a low U-value with timber frame than traditional build methods. It goes beyond Building Regulation requirements without any filling of the cavity!

Try to decide the level of thermal performance you require. This will help determine the level of insulation needed – information that can be passed onto Taylor Lane ahead of the design process. This is also important for the Standard Assessment Procedure (SAP) calculation and Energy Performance Certificate – both are required by Building Regulations.

Energy Savings

20. Rural Retreat
24. Family Affair
28. Modern Hub

*Are you
ready to be
uninspired?*



RURAL RETREAT

Victoria and Jason Dutton have built a **traditional country home** using **modern methods** of construction – **without sacrificing on style.**



IN DETAIL

- Structure: 140mm timber frame
- Insulation: 100mm rigid polyurethane
- Joist type: 240mm I-Joist
- Trusses: standard, attic and stub



"We were the first to have planning permission granted in our village," says interiors retailer Tori Dutton of the land adjacent to her parents' home bought back in 2005. "We used a planning consultant as we were aware that the application needed to be water-tight if we were to have any chance of building, and permission was granted in August 2015."

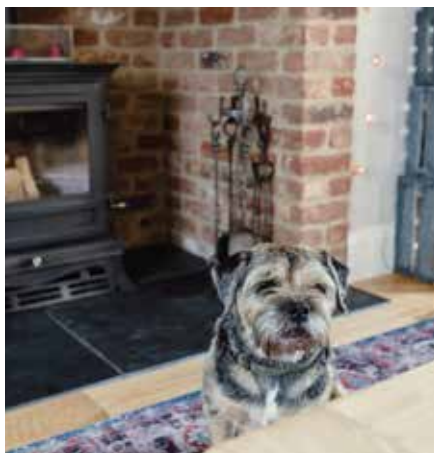
Tori and her husband, Jason had initially envisaged a traditional oak framed house, around 149sqm.

But after discussing their wish list – four bedrooms, open plan kitchen / diner and garden room, with a local oak frame supplier they fell in love with an existing design. "It was much bigger than we had originally planned, at 249sqm but the plot was large enough to accommodate the house, and we're now so glad that we built that extra square footage!"

Tori and Jason then took the extraordinary step of buying the design rights from the oak frame supplier.

"We loved the design but after further research into timber frame builds we knew that with some clever internal and external features, we could replicate a similar look and feel using modern build methods."

The couple then spent many hours researching timber frame suppliers before settling on local company, Taylor Lane Timber Frame. "We had heard nothing but positive reviews about Taylor Lane and after meeting with Padraig [Taylor Lane's selfbuild manager]



and talking through our vision, we had no hesitation in our decision to build using a Taylor Lane frame. Padraig was fantastic throughout, as was the supply and delivery of the frame. Every dealing we had with them was a pleasure."

As first-time self-builders and both working long hours in busy jobs, Tori and Jason decided to appoint a project manager. "This was the part we were most nervous about. We asked Padraig at Taylor Lane if he could recommend any builders and we were fortunate to meet Ian Harris,

who not only oversaw the build but was a great help and support with recommending reliable local suppliers and tradesmen."

One of the main benefits of building with timber frame is outstanding thermal performance. Tori and Jason had to achieve a fairly stringent U-value as part of the overall Standard Assessment Procedure (SAP) energy rating. "Taylor Lane really helped us with this. Their knowledge about energy efficiency and U-values was instrumental

in helping us achieve the targets required for planning permission.

"This is our first new build – we absolutely love it," concludes Tori. "Every day we benefit from the thought and detail we put into each decision. We spend a lot of time in the kitchen / diner and garden room. It's an amazingly open and light space, and although the locally-sourced oak beams and columns aren't part of the structural frame, they still give the feel that we were looking for."

Family Affair

The Price family waited almost 20 years to get planning permission to build on their farmland, so when planning law changed in 2016, farmers David and Sarah Price gave the plots to their sons Ben (30) and Joe (32), to build their own homes.

"Both our sons lived at home and worked on the farm when we first started planning the builds, and Joe still does, so it was essential that they lived nearby. Not many houses come up for sale in the village and prices are rising all the time, so we knew that building houses for them was an ideal way to find them somewhere to live," says Sarah Price, who project managed the build along with her son Ben.

Designed with a mirrored floorplan, the structure of the two houses is almost identical, built using a timber frame and coated in Forest of Dean Pennant sandstone and western red cedar cladding, the stone rising to different heights to differentiate the two houses. Roofs are covered with slate tiles, with aluminium window frames that are grey externally and white on the inside. They have four bedrooms, open-plan kitchen/diner and integral garages.





IN **DETAIL**

- Structure: 140mm timber frame
- Insulation: 100mm PIR and 25mm PIR
- Joist type: metal web joist
- Trusses: attic and fink
- Additional products: oak staircase, entrance door, internal and side doors, and aluminium bi-fold doors and windows

“

Built in the style of an agricultural barn, the houses have lots of glazing facing views up the field to the rear

”





Built in the style of an agricultural barn, the houses have lots of glazing facing views up the field to the rear, with a patio on the same level as the interior to create the fluid inside/outside transition.

The interior has been decorated so that a similar colour scheme runs throughout the house, whilst each room maintains its own identity and feel, achieving a look that is modern yet timeless.

Groundworks began in October with digging of trench foundations, and the frame construction began soon after.



Installation of the first-floor panels of the timber frame was delayed by a week due to seven inches of snow. Despite the adverse weather conditions however the overall progress was good, and the roof was felted and battened by Christmas.

Rigid board insulation in the walls achieves a U-value of $0.15 \text{ W/m}^2\text{K}$, and quilt insulation, a type of multi-foil, is used in the floor. Airtightness of $3.2 \text{ m}^3/\text{hr}$ has been achieved, exceeding Building Regulations, while solar photovoltaic panels have been installed to produce green electricity.

Attic trusses above the garage mean that a larger fourth bedroom can be created in the future, while panels in the timber frame can be removed to allow other changes to be made, explains Ben: "The small fourth bedroom can become a walk-in wardrobe for the main bedroom, and a corridor created to give access to a room above the garage, if we need the space."

Edited version. Full article first published in Selfbuild & Design. Reproduced with kind permission.

Modern Hub

Patience and perseverance paid off for the Webb family, who built a modern timber-frame home on the outskirts of Hereford.

Tom and Nicola Webb had previously self-built but the project already had detailed plans approved so they were limited as to what they could change. This time a plot was purchased with outline planning, "...so we could put our stamp on it. We had the support of the local planning officer with our modern design which helped," - says Tom

The couple wanted the house to centre around the large open plan kitchen/dining/sofa area and for the bedrooms to lead onto a balcony with views out to the Herefordshire countryside. Project architect, OHA Architecture responded with a generously sized, modern family home with a flat roof to maximise internal space and minimise building height.





IN DETAIL

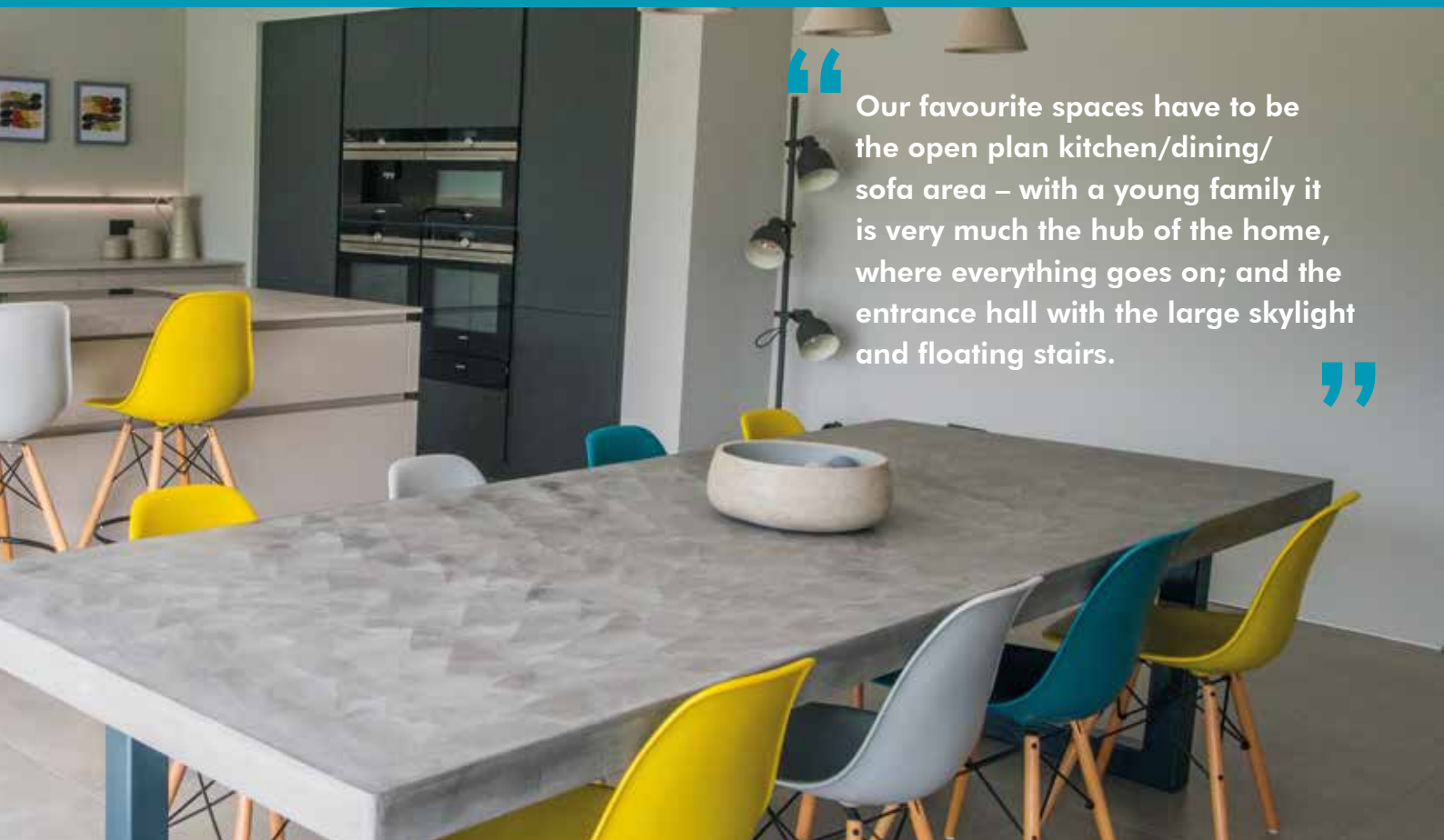
- Structure: 140mm timber frame
- Joist type: metal web joist
- Additional products: steel support
- U-Value: 0.15 W/m²K

The design of the house leant itself to a modern method of construction. The Webb family appointed Taylor Lane Timber Frame to design, manufacture and erect a 140mm timber frame kit. Metal web joists were used to construct the floors, balcony and flat roof.

Thermal performance

"We wanted to achieve the best energy performance we could, while obviously balancing it against the impact on budget," says Tom. The Standard Assessment Procedure (SAP) calculation generated the U-value required. Taylor Lane designed a package to meet the best possible energy performance – 0.15 W/m²K, equal to Passivhaus requirements. The property also benefits from triple glazed windows, excellent air tightness and mechanical ventilation with heat recovery system.





“

Our favourite spaces have to be the open plan kitchen/dining/sofa area – with a young family it is very much the hub of the home, where everything goes on; and the entrance hall with the large skylight and floating stairs.

”



Floating staircase

Another feature that Tom and Nicola wished to incorporate into the house was a floating staircase.

“After discussing this with Taylor Lane, they spoke to their in-house engineers and steel fabrication team, and came up with a design that incorporated the necessary steel structure into the timber frame,” continues Tom.

“This made it much easier than trying to organise a third party to undertake the work later. Taylor Lane were great to work with throughout the project.”

The result is a striking modern house filled with natural light and featuring far-reaching views. It more than lives up to Tom's expectations.

What's it like to live in a timber frame house?

We wanted to find out, so we spoke to Mr & Mrs Swift, owners of a timber frame home on an exclusive housing development in Herefordshire...



IN DETAIL

- Structure: 140mm timber frame
- Insulation: 100mm rigid polyurethane
- Joist type: I-Joist
- Trusses: mix of trusses, purlins & rafters
- Additional products: non-oak external joinery



"We first became aware of the development by chance when we were out for a drive on a Sunday afternoon. We were so impressed with the style of development that we drove onto the site even though we were not considering a move.

Whilst we were 'having a nosey' around a partly completed cottage, we were approached by a man, who turned out to be the developer, Les Chambers, who asked if we would like to have a look inside.

Les explained that the properties were being built using timber frame construction which provided excellent insulation and would thus keep heating costs low. He also pointed out that the construction technique made it easier to "redesign" the house, if needed, in the future - bedrooms two and three, for example, could be made into one quite easily, if required.

Timber Frame Construction

"We had, in the past, considered buying a cottage, but were put off because the cottages we had seen tended to have small windows, making them dark inside, and also because of the potential maintenance costs. We both could see immediately that this property would give us everything we wanted - a modern house with a cottage design having plenty of light and low maintenance. We also would be living on a small development with close neighbours which is desirable as you get older!

“ This is the first property we have owned in which the temperature is constant in whichever room you go. ”



"Even though the property was still to be completed and having listened to what Les had to say, we decided there and then that we wanted to buy it. Arrangements were made the following day for our property to be marketed. The property sold within two weeks and we moved into our new property five days before Christmas.

Life in a Timber Frame Home

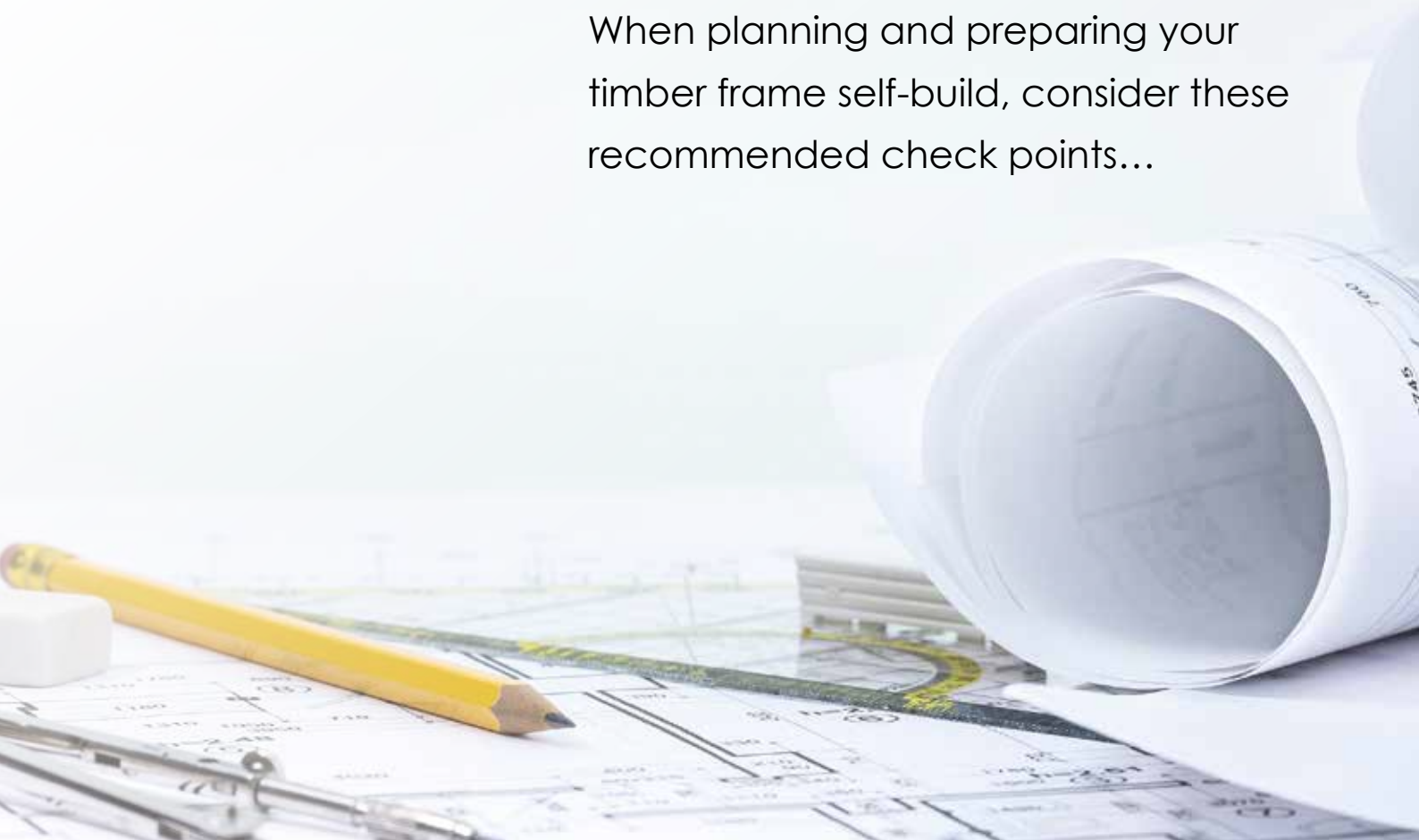
"We have now been in Acorn Cottage for 14 months and have absolutely no regrets about the decision we made on that Sunday afternoon. This is the first property we have owned in which the temperature is constant in whichever room you go.

The lounge and kitchen are probably our favourite rooms, but the cottage character can be found throughout the property.

"Whilst we have lived in Acorn Cottage, Les has built three further houses allowing us to see first-hand how the houses are built from start to finish. This has confirmed our initial belief that we have 'bought into a quality construction'. We have seen other developments being built, whilst we have travelled around the country, and we can honestly say that we believe none compare with the quality of the timber frame construction provided by Taylor Lane."

Timber Frame Self-Build Checklist

When planning and preparing your timber frame self-build, consider these recommended check points...



- ☐ **Timber frame drawings** – We require detailed architectural drawings of your build - the more detailed, the better e.g., 1:50 dimensioned plans, elevations and sections, as applicable. A site map is also required. These are used to provide an accurate quotation and later aid the design of your timber frame.
- ☐ **What's included in your timber frame kit?** Be clear about what your timber frame includes and be aware of additional costs e.g., internal and external joinery, stairs etc. This is particularly important when comparing quotes from more than one timber frame supplier, as very rarely will companies specify exactly the same products and services.
- ☐ **Site limitations** – before work can begin onsite be aware of any site restrictions, for example: overhead cables, limited access, time restrictions for deliveries and potential need for road closures. Some restrictions can take time to resolve and may impact your build schedule if not addressed in the early stages.
- ☐ **Crane Suitability** – the site will need to accommodate or provide access for heavy-duty equipment, including rigid and articulated lorries and in most cases, a mobile crane. You will need to provide a suitable surface for the crane to stand on. This can be discussed when we survey the site prior to installation.
- ☐ **Groundworks** – it is very important that you share the timber frame drawings with your groundworker, especially the sole plate details. The slab must be complete with block course ready for the sole plate – it must be accurate and level. Consider concrete base plates and pads if your build includes steelwork, these will be shown on the plans but can be missed. It is your responsibility to ensure that the block layout is correct.
- ☐ **Scaffolding** – ahead of your timber frame you will need to arrange for scaffolding to be erected. It's important that this is done to our requirements – your appointed timber frame project manager will issue instructions for you to share with your scaffolding contractor. Remember, the scaffold will be required long after the timber frame is complete, and the erectors have left site.
- ☐ **Facilities** – throughout the build, your sub-contractors will require access to basic site facilities including a WC and cloakroom. Material storage areas and waste disposal are also important.
- ☐ **Follow-on trades** – To truly benefit from timber frame construction you must organise your follow-on trades so that when the kit is erected it can be made weathertight without delay, and first fix can begin. It is important to roof the building to ensure it is under compression before starting the external facade.
- ☐ **Lead times** – bear in mind the lead time for deliveries of your timber frame kit may be longer or shorter than anticipated, so check in advance. A reputable timber frame supplier should appoint a dedicated point of contact and visit site during the erection process, this level of support can be invaluable when project managing and planning your build schedule as they can advise on deliveries.
- ☐ **The legal stuff** – Appoint a Construction Design & Management (CDM) co-ordinator to advise on health & safety issues and to assist in managing the project. It is also worth remembering that we are a sub-contractor to your build, and it is not our responsibility to organise any other trades onsite, other than our own erectors.
- ☐ **The unexpected** – it may go without saying but understand that there can be unforeseen circumstances e.g., weather conditions, follow-on trade delays etc. Remembering this won't alleviate the issue but it may help reduce the stress levels!
- ☐ **Timber frame support** – and finally, please remember that we are here to help. Your timber frame project manager is on-hand to answer any timber frame questions and queries.



www.taylor-lane.co.uk

