



# westwind

HANDCRAFTED OAK BUILDINGS



Westwind Oak Buildings Ltd have spent over twenty years specialising in the design and construction of beautiful, bespoke green oak-framed buildings, from complete houses, to commercial buildings, extensions, swimming pool enclosures, and all kinds of outbuildings.

Whether stylishly contemporary or beautifully traditional, our frames are unique and designed to our clients' exact specifications.

Westwind Oak is a family run business that has established itself over the years as one of the leading companies in the oak-framed buildings industry. We pride ourselves on delivering a personal and approachable service, and each member of the Westwind Oak team is passionately committed to designing and building environmentally friendly, unique and beautiful buildings that will stand the test of time.

*Rupert Newman*



## SUSTAINABLE CONSTRUCTION

Designing and producing sustainable buildings is of major importance to Westwind Oak. Historically an oak frame will last for many hundreds of years, far exceeding the time taken to grow the trees used in its construction, making it brilliantly suited to such a sustainable application.

The timber most commonly used today is green oak (oak used within a couple of years of the tree being felled). European oak has primarily been used for framing because it is a strong, durable timber containing its own natural preservative which protects against rot and insect attack. Green oak has a low embodied energy (the amount of energy taken to produce it) and all our timber comes from managed woodlands where it is carefully selected. Although the energy required in the construction of a building is substantial, the energy usage throughout its lifetime is of much greater importance. Buildings currently count for about 50% of Europe's energy usage, and of that, roughly 60% is in heating energy. Our future need to continually reduce our CO<sub>2</sub> emissions means that designing and building truly sustainable and environmentally friendly houses is now a necessity.

Using sustainable materials on their own is not enough, as a whole house design approach is needed. Westwind Oak tackle this by working with the best architects in the field at the initial design stage. Our designs endeavour to maximize solar gains from correct orientation, glazing and insulation. At the detailed design and building regulation stage we offer a complete environmental service to help lower the carbon footprint of the building. With the introduction of increasingly stringent building regulations, aiming to move towards zero carbon houses for the future, such considerations are of vital importance.

Westwind Oak are members of the Association for Environmentally Conscious Builders, founder members of The Forest of Avon Wood Products Co-operative, and also members of the Green Register of Construction Professionals.



Reference: Loxwood House, Pool

## DESIGN AND PLANNING

Westwind Oak can recommend an architect to the client, but are just as happy to work with the client's own architect.

We are keen to ensure that any design is appropriate for the chosen site and accentuates the best elements of the environment. Making the best use of sunlight, views and orientation on a plot will ensure that the internal spaces get maximum natural light throughout the day and that full advantage is taken of solar heat gains without the risk of overheating during the summer months.

The initial design of any project is very important to maximise energy efficiency and create a beautiful, well planned and yet highly efficient home. We achieve this by working with some of the best architects who are experienced in oak frame design and who appreciate how oak frames interact with the rest of the building envelope. Alternatively, if you come to us with your own plans we will work with your designer to design the oak frame element of the build.

The key elements in the design process are as follows:

1. The Initial Design Proposal - This will be based on your site, location and the type of building you wish to achieve as well as your budget. Normally a measured survey of your plot will be required to establish all of the necessary information.
2. Planning Submission - Once the designs have been finalised with you they will be submitted to your local planning authority for approval.
3. Building Regulation Design - Once planning permission has been granted, detailed drawings and specifications are drawn up for building regulation approval. This will also include framing drawings and a structural engineer's certificate.
4. Detailed Construction Information - This will include fully worked up architectural drawings and framing drawings.





## BUILDING OAK FRAMES

Once the frame has been commissioned and a deposit received, the first available time slot will be booked in to our workshop schedule. The timber takes about 3 to 5 weeks to be delivered and once work commences a typical house frame takes approximately 2 months to construct before delivery to site. In this time ground works are completed, and the site is prepared for the raising of the frame. Once delivered, the frame can be erected and finished within the week.

We do our utmost to tailor the design to suit your budget. At the early stages of a project a guideline price can be given, and after the technical drawings are completed a fixed price for the project will be provided.

Westwind Oak do not have any hidden costs and give a price for the complete frame, i.e. design, manufacture and site erection. The only costs independent of this are the engineer's and architect's fee. When asked about prices of buildings, actual examples of recently completed projects, rather than a quote worked out from a formula, have proved to be more useful.

Westwind Oak's terms for payment are as follows:

- Initial consultation – free of charge
- 10% deposit to book workshop slot
- Stage invoice to cover the cost of the timber once it's been ordered
- Stage payment every month during the workshop fabrication
- Final payment once the frame has been erected



### Finishing your frame

After making the frame in the workshop, skilled carpenters from Westwind Oak will come to site to raise it. This often includes fitting oak rafters and joists. Once the structural frame is in position it is ready to be made watertight.

Westwind Oak are at the forefront of environmental building technology and recommend that the frame is covered with an external envelope rather than the more traditional method of "in-fill". This greatly increases the thermal properties of a building and stops any leaks that in-filled frames tend to suffer from. Westwind Oak now offer SIPs panels as well as the frame to deliver a watertight shell.

Once the frame is erected on site, the full set of building regulation drawings produced will allow any competent builder to finish the project successfully. We are on hand to give advice to all clients on the long-term care of their oak-framed building, and are happy to provide any other practical support as their build continues.

### Cleaning Green Oak

Throughout the building process the oak will inevitably get dirty as it is cut, transported, and subjected to varying weather conditions. Cleaning the frame will be necessary, but provided this is done carefully by professionals it is a simple procedure.

The most common way to clean an oak frame is by sandblasting, which works by shooting grit fed from a hopper at an extremely high pressure through a nozzle. When the grit hits the surface of the oak, it removes a thin layer of wood leaving clean bare timber behind.

### Important note

The type of grit used to blast green oak is extremely important. Any iron present in it will cause the frame to discolour as it reacts with the tannin in the oak. Only recommended sand blasters should be used.



## SMUGGLERS CREEK

This oak-framed house was built on the edge of a Cornish creek. It features a cruck frame, queen post truss and oak rafters. Because of the narrow access, all the timber was raised by hand (with the help of a gin pole), by a team of five men in just one week. The American Timber Framers Guild voted it 'Frame of the Year' in November 2000.

Site: Cornwall Approx size: 120m<sup>2</sup>



## LOXWOOD HOUSE

A substantial barn-style property with a separate swimming pool frame. It features a stunning Celtic cross in a glazed screen and hammer beam trusses in the pool room.

Site: West Sussex Approx size: 380m<sup>2</sup>



## BROADVIEW

This large oak-framed extension with vaulted ceiling and mezzanine floor complements the existing period family home. It is clad in weather boarding and features double height, glazed doors and sling brace trusses.

Site: Hampshire Approx size: 100m<sup>2</sup>

## DEERS LEAP

This barn-style family home has a full height vaulted sitting room with a sling brace truss in the middle. It also has direct glazing, oak rafters and oak floor joists.

Site: Hampshire Approx size: 310m<sup>2</sup>



## DRAYCOTT COTTAGE

This lovely oak-framed house sits on the southern edge of the Mendip Hills in an area of outstanding natural beauty. It has been designed to blend into the hillside and has a sedum roof. The frame has been styled in a contemporary design with straight braces.

Site: Somerset Approx size: 100m<sup>2</sup>

## HEREFORDSHIRE

This beautiful oak-framed house was built by Westwind Oak in 2012. It has a SIP envelope and sections of direct glazing on the oak frame.

Site: Hertfordshire Approx size: 341m<sup>2</sup>



## ST. PETER'S HOSPICE

Westwind Oak built the oak frame for the Garden Rooms at St. Peter's Hospice. The garden rooms allow the hospice staff to provide more creative therapies, including music and art therapy. It also provides a space for group bereavement work, which many family members find beneficial after losing a loved one.

Site: Bristol Approx size: 144m<sup>2</sup>

## MENDIP MAGIC

This house was designed as an upside down building with the living space located on the upper floors and the bedrooms below. The main room of the house has been left vaulted to the ceiling to give the feeling of height and space. The frame was built onto blockwork downstairs and externally covered in the natural stone of the Mendips.

Site: Somerset Approx size: 200m<sup>2</sup>





## CHALET DU CHENE

This is one of several chalets that Westwind have built in the Alps. It has a SIP envelope finished with reclaimed weather boarding. The frame and SIPs were erected by Westwind in 3 weeks in 2014.

Site: The French Alps Approx size: 200m<sup>2</sup>



## WILLIAMS YARD

This is a contemporary self-build, making excellent use of a confined spot in North Somerset. It features interrupted tie beam trusses and a covered veranda.

Site: Somerset Approx size: 215m<sup>2</sup>



## WESTWIND OAK SIPs



Westwind Oak are delivery partners of the Kingspan TEK Building System. This allows us to be able to design and deliver the Kingspan TEK Structural Insulated Panels (SIPs) to fit on our frames, and gives you the option of a dry shell, super insulated and air-tight building, direct from Westwind Oak.

The Kingspan TEK SIPs panel consists of a rigid urethane insulated core sandwiched between two layers of Oriented Strand Board (OSB). The panels are connected together using an insulated jointing spline. This reduces thermal bridging and provides a more continuous layer of insulation. The Kingspan TEK Building System can provide an extremely high level of insulation, enabling modern Eco house construction. Combining with great U-values the Kingspan TEK SIPs panel offers outstanding air-tightness. Air-leakage can be as good as 0.91 air changes per hour at 50 Pa. This level can be improved upon by using special tapes and barriers to achieve well below Passive House standards. Air-tightness is a very important feature in any modern Eco or Passive house. Because the Kingspan TEK Building System is so air-tight we recommend using a whole house Mechanical Ventilation and Heat Recovery System (MVHR). Kingspan TEK Building

System also hold BBA certification and is recognised by the major building warranty providers, such as NHBC and Build Zone Homebound.

Westwind Oak can design the oak frame and the SIPs panels concurrently, so you can have the comfort of knowing that the two building systems will fit perfectly together. Whilst the oak frames are made in our Laurel Farm workshops, the SIPs panels are cut at Kingspan's fully automatic plant. Once the frame is erected on site the cut SIPs panels are delivered and the frame can be immediately enclosed. The total-build time for the frame and panels can be as little as 3 weeks. This speed of construction helps reduce the overall build time, hence saving money. The SIPs panels are fixed to the outside of the frame on counter-battens. This creates a service zone for the wiring and plumbing and also ensures that the frame has a complete layer of insulation around it. Finally the plasterboard is fixed to the inside of the SIPs panel, sliding behind the Oak Frame leaving a shadow gap. This means that when the oak shrinks the finishes are not affected and touching up is not required. The outside of the SIPs panels can be finished in a variety of materials from Stone to timber weather boarding. Please contact us for more details.

We hope this brochure has provided you with some useful information.

If you have a requirement please call us on 01934 877317 or email [info@westwindoak.com](mailto:info@westwindoak.com)

We will be delighted to hear from you. If you are interested, site visits can sometimes be arranged to view finished projects and also a tour of the workshop.

If you require further information or you wish to discuss a particular project, please contact us.

## OUR BOOK

Oak-Framed Buildings by Rupert Newman

A practical book on the technique of timber-frame construction for carpenters, builders and aspiring self-builders, but also a source of inspiration to anyone who appreciates beautiful buildings.

### Reviews

**"A triumph of style and content".**

Mortice and Tenon, Spring 2006

**"You'll appreciate the enormous amount of information it has to offer. If you're thinking about building with oak this is a sturdy companion to have with you".**

Grand Designs Magazine, April 2006

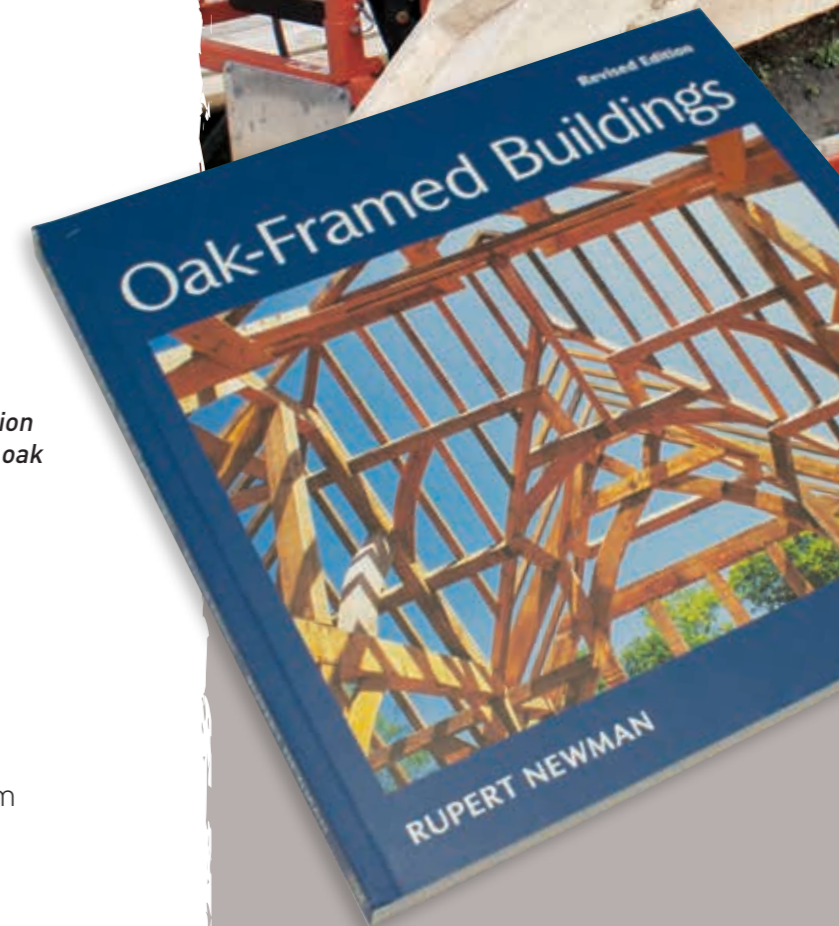
### Book Details

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