



# Beattie Passive

## About Us

**Using Passivhaus comfort and energy efficiency principles, Beattie Passive provides a design technology that simplifies the delivery of Passivhaus. Uniquely we test and certify all buildings upon structural completion to ensure they deliver the superior performance as designed.**

**Beattie Passive is the first company in the UK to be awarded certification as a complete build system by the Passivhaus Institute in Germany.**

This fabric first build system is a Passivhaus timber frame structure that can be designed into any style, shape and size of property; delivering significant cost, time saving and environmental benefits. This adaptable system transforms any design into high-performance, low-cost homes using semi-skilled labour and is built with traditional and readily available construction materials.

The Beattie Passive Building System is an innovative super-insulated timber frame system that incorporates a unique and patented construction method that provides a continuous insulated seal around the core of a timber-framed structure. Using Passivhaus energy efficiency principles, the Beattie Passive system delivers a construction from foundation beams, ground floor, walls and roof all built to form a continuous void. Once in place, flame retardant insulation material is injected into the floor, wall and ceiling cavities, creating one continuous seal. Which results in no joints and no leaks.

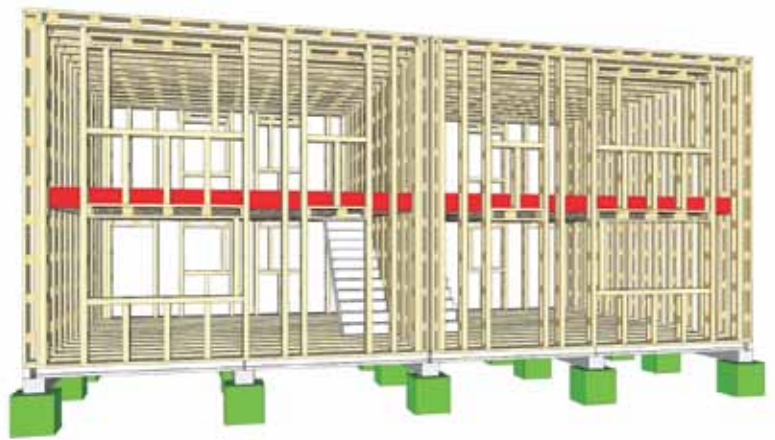
The system delivers exceptional, Passivhaus levels of energy efficiency performance, at construction costs, which are similar or less than the costs of standard construction. Beattie Passive is successfully working with Architects, Self-Builders, Housing Associations and Developers across the UK and Europe.

### Benefits

The Beattie Passive system delivers Passivhaus as standard and beyond with the following benefits.

#### Passivhaus as standard:

- Passivhaus certified system by the Passivhaus Institute in Germany
- Up to 90% reduction in heating requirements
- Up to 100% reduction in CO<sub>2</sub>
- High level of living comfort
- Thermal bridge free  $\leq 0.01W/(mK)$
- Thermal efficiency - U-values 0.11 and below
- Beattie Passive's design methodology details each junction for air tightness and achieves levels as low as 0.16m<sup>3</sup>/hm<sup>2</sup>@50pa
- Mechanical Ventilation and Heat Recovery incorporated in all Beattie Passive buildings





## Additional benefits of Beattie Passive



### High quality building delivered every time

You receive a high quality building that exceeds Passivhaus standards every time. Robust inspection of key build elements and testing ensures every building is built as designed.



### Simplicity

Its simple: the easy to assemble frame-link build system, guarantees understanding and enables a quick and risk free erection.



### Any design, shape or size

The Beattie Passive system has no restrictions on design. The design team will incorporate any design, shape or style of architectural drawings into our 3D modelling system and deliver a custom made package incorporating all the key Passivhaus values of our build system.



### Reducing risks

Built-in checks and balances to ensure houses are built as designed, and ensuring any faults can be easily rectified without cost implications. The off-site panel system further reduces the risk to the contractor.



### Easy maintenance

All Beattie Passive houses have a continuous service void around all floors, walls, ceilings and roofs allowing for ease of maintenance, alteration and access to all services.



### Building lifetime buildings

No internal structural walls allow buildings to be modified and altered over their lifetime; greatly cutting down on house adaptation costs and providing design flexibility.



### Lifting standards

Beattie Passive is raising the benchmark for quality and standards, exceeding current building standards on:

- **Fire safety** – Beattie Passive provides you with 2 hours fire protection as standard as opposed to 1 hour for building regulations. This means that it takes double the length of time for a fire to penetrate through a Beattie Passive wall, roof or ceiling
- **Sound** – Beattie Passive delivers 57db which is six times better than build regulations giving a dramatic reduction in related sound issues between dwellings
- **Thermal Efficiency** – Beattie Passive can achieve thermal efficiency of 0.11 and below compared to building regulations of 0.28. This means that the building loses less heat
- **Air tightness** – delivers as low as 0.16 compared to building regulations at 5 this means that there is minimal gaps and you are holding the energy in the building.



### Health

The system is designed to improve the occupants' health and wellbeing, taking into account health issues related to Radon and airtightness. Radon proofing is designed into the system as standard to prevent the ever-increasing risk of Radon Cancer caused by gases entering our homes. Mechanical ventilation delivers fresh filtered air into your homes creating a healthier environment and reducing the causes of respiratory issues.



### Flood Protection

Flood protection is incorporated into all Beattie Passive houses as standard, providing you with the assurance that your homes are tanked to protect you from flood water.



### High level of living comfort

No more drafts in winter and overheating in summer: The system responds positively to changing climate (overheating and cooling) due to the innovative design and the lightweight structure.



### Local manufacture

Beattie Passive is designed to be locally manufactured at any location using readily available materials. The simplicity of the system allows for fast on-site erection.



### Off-site manufacture possible

The Beattie Passive panel system allows for off-site development and rapid on-site erection reducing risks and time.



### Limited Waste

The use of our bespoke 3D modelling allows all materials to be measured to within 1mm, which greatly reduces onsite waste, as well as controlling the over ordering of materials.



### Sustainability

All materials used are sourced from fully certified supply chains, they are A+ rated in the BRE Green Guide.



### Solve skills shortage issues

Given the inherent simplicity of the Beattie Passive Build System, our designs produce high performance, low cost homes using local semi-skilled labour, solving your skill shortage issues.



### Develop skills in your community

Beattie Passive opens up a number of exciting community and education project opportunities allowing local young and unemployed people to retrain and benefit, both financially and socially, from a return to the workplace.



### Passivhaus training

Our in-house Beattie Passive Training Academy provides contractors, DLOs and Self-Builders with the knowledge, skills and confidence to build a Beattie Passive Home.