



Passivhaus Standard

In a league of its own

The core focus of the Passivhaus standards is to dramatically reduce the requirements for space heating and cooling, whilst also creating excellent indoor air quality and comfort levels.

Passivhaus (or Passive House) is an advanced low energy construction standard for buildings, providing excellent health and comfort conditions, whilst using very little energy for heating and cooling. Good quality design and craftsmanship paired with superior windows and doors, high levels of insulation and heat recovery ventilation are the key elements that set Passivhaus construction apart from standard building regulations.

Passivhaus standard can be achieved in a number of ways, with Beattie Passive offering a design technology that simplifies the delivery of Passivhaus and ensures it achieves this high standard every time.

Achieving Passivhaus Standard

Passivhaus is a building standard that is truly energy efficient, comfortable and affordable at the same time. The standard is achieved primarily through a fabric first approach, which means that it focuses on maximising the performance of the components, and materials that make up the building fabric itself.

Gold Standard for Ultra-Low Energy Homes:

- **Exceptionally high levels of insulation** - Super-insulated walls, floors and roofs create an affordable, comfortable and healthy environment
- **Extremely high performance windows** with insulated frames reduce heat loss and optimise solar gain
- **Airtight building fabric** prevents air / heat escaping from the building
- **Thermal bridge free design and construction** prevents heat losses and condensation
- A **mechanical ventilation and heat recovery system** provides a constant supply of tempered, filtered fresh air, which is allergy free
- **Accurate design** using the Passive House Planning Package (PHPP) ensures buildings are designed to achieve the required standards



Beattie Passive were the first company in the UK to receive certification for a complete build system by the Passivhaus Institute in Germany.

“With Passivhaus, building heat losses are reduced so much that hardly any heating is needed at all. The sun, the occupants, household appliances, and even the heat recovered from used air cover a large part of the heating demand. The remainder can then often be provided by the ventilation system.”

Dr. Wolfgang Feist, Founder and Director of Passivhaus Institute



Benefits

Why build Passivhaus?

Extremely low heating and cooling costs, despite rising energy prices

Passivhaus buildings use up to 90% less heating / cooling energy. 10 tea lights or even the body heat of 4 people could keep a 20m² Passivhaus room warm in the middle of winter, even in extremely cold climates. In reality of course, Passivhaus buildings are not heated with tea lights; they use energy efficient building components and draw on the Heat Recovery and Ventilation System.

High levels of comfort

Passivhaus buildings are characterised by consistent indoor temperatures without temperature swings or draughts during cold winter months as well as hot summer periods. Summer heat is controlled through shading, window orientation and passive ventilation to prevent overheating. High-performance windows and superior insulation also helps dampen unwanted noise generated from outdoors.

Consistent fresh air throughout the building

Passivhaus building's superior ventilation system ensures a continuous, consistent supply of fresh air at room temperature and ensures high indoor air quality. The filters remove airborne pollutants such as pollen reducing allergies for residents.

Affordability

As there is no requirement for radiators or other heating / cooling systems, the running costs for the building are a lot less than an equivalent building constructed to current building regulations. Passivhaus is now being recognised in the market with a higher asset value than traditional construction.

Perform as designed

Passivhaus buildings perform as designed. In an industry where there is often a discrepancy of as much as 100% between the drawing board and as-built performance, this is crucial.

High quality

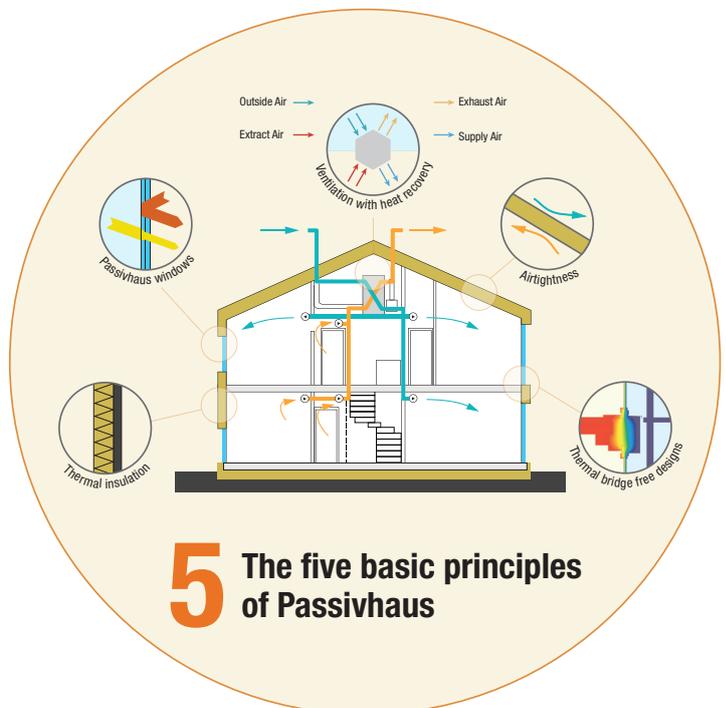
Passivhaus standards require a high level of quality in building materials and construction methods to achieve the levels of air tightness and insulation required.

Structural longevity

Due to the airtight design and ventilation system Passivhaus buildings are always mould free with a highly-reduced risk of moisture damage.

Sustainable – up to 100% reduction in CO₂

As no heat escapes from a Passivhaus and very little, if any, extra energy is spent on heating, carbon emissions are minimal. Some Passivhaus buildings are also fitted with solar panels to provide electricity and hot water, making them completely carbon neutral.



Beattie Passive's simple, high quality build system delivers above and beyond the benefits of Passivhaus Standard. Beattie Passive buildings are designed for long life and high performance. The very high standard of Passivhaus construction negates common building faults. Meticulous attention to detail, rigorous design and construction and an exacting certification process ensures that what is designed is built, and what is built performs as it was designed.