

The Passivhaus Standard Extract from BRE Group Website

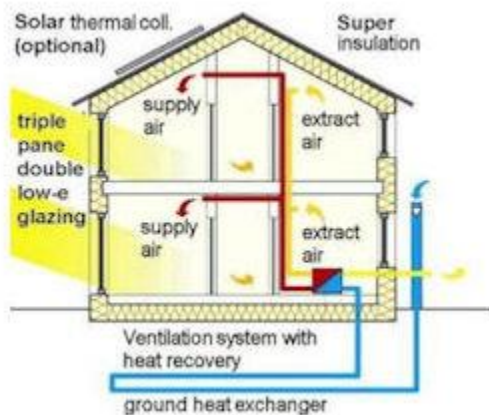
The Passive House standard is the fastest growing low-energy and comfort standard in the world with over 45,000 buildings realised to date, with many more currently being designed and constructed. Passivhaus buildings have a high level of indoor air quality and can achieve a 75% reduction in space heating requirements compared to the standard practice for UK new-build.

Passivhaus¹ is an international energy performance standard with buildings constructed to the Passivhaus standard reaching 30,000. Passivhaus buildings have been constructed in every major European country, Australia, China, Japan, Russia, Canada the USA and South America, plus a research station has been constructed to the Passivhaus standard in Antarctica.

The core focus of Passivhaus is to dramatically reduce the requirement for space heating and cooling, whilst also creating excellent indoor comfort levels. This is primarily achieved by adopting a fabric first approach to the design by specifying high levels of insulation to the thermal envelope with exceptional levels of airtightness and the use of whole house mechanical ventilation.

In a Passivhaus thermal comfort is achieved through use of passive measures listed below which can be applied not only to the residential sector but also to commercial, industrial and public buildings.

- Good levels of insulation with minimal thermal bridges
- Excellent level of airtightness
- Good indoor air quality
- Passive solar gains and internal heat sources



A common misconception is that Passivhaus only applies to cold weather climates when it actually works equally, well in warm and hot climates. High levels of airtightness and insulation work equally well in protecting buildings from overheating provided there is adequate solar shading.

Whilst it is possible to achieve the new build Passivhaus standard in the refurbishment it is often difficult to achieve without undertaking major works.

¹ <https://www.bregroup.com/a-z/the-passivhaus-standard/?cn-reloaded=1>