BREEAM HEA 04: THERMAL COMFORT

Research has shown that extreme temperatures are associated with an increased risk of illness, and have an immediate effect on health and well-being. It is also recognised that measures taken to improve energy efficiency, such as increased air tightness, thermal insulation levels etc. have the potential to result in more instances of overheating in summer.

With a changing climate, both under and overheating are an increasing problem in buildings. Effective temperature regulation is therefore an integral part of ensuring a healthy and comfortable internal environment. Achieving thermal comfort is dependent on the building being designed to allow for seasonal changes and occupier preferences. However it is also important to consider future temperatures which are expected throughout the lifetime of the building, so as to ensure future thermal comfort.

The use of robust thermal modelling supports an energy efficient design while also ensuring environmental comfort in-use.

There are 3 credits available under HEA 04

- Thermal modelling (one credit)
- Design for future thermal comfort (one credit)
- Thermal zoning and controls (one credit).

One credit - Thermal modelling

Thermal modelling has been carried out using software in accordance with CIBSE AM11

The modelling demonstrates that:
For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5

For naturally ventilated buildings:
Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5
The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in CIBSE TM52:The limits of thermal comfort:avoiding overheating in European buildings or CIBSE TM59:Design methodology for the assessment of overheating risk in homes

One credit - Design for future thermal comfort

The thermal modelling demonstrates that the relevant requirements above are achieved for a projected climate change environment.

One credit - Thermal zoning and controls

The thermal modelling analysis report has informed the temperature control strategy for the building and its users.

L2 Energy Consulting have the experience to advise and produce the necessary report to achieve all 3 credits for HEA 04 Thermal Comfort.