



Strangeways Laboratories

Client	Strangeways Research Institute / Cambridge University
Purpose	Research and Development offices
Construction Value	£2.2m
Design Team Members	Feilden & Mawson - Architects Hannah Reed – Structural Engineers Edmond Shipway – Cost Consultants RPA – Services Consultants
Contractor	Shephard Construction Limited
Design Programme	October 2001 to January 2002
Construction Period	13 months – completed in October 2003
RPA Role	Full design service and construction inspection – two stage tender procurement

Scheme Description

The office building was designed on the basis of providing flexible and adaptable space which was energy efficient and has low cost in use. The fixed elements of the accommodation, namely the stairs, lifts, toilets etc. are at the end of the building, providing clear uninterrupted spaces to allow a variety of possible layouts and ease of future use.

The low energy strategy was to construct and test a building with a low target envelope leakage to reduce filtration, and also to use a high, inherent thermal mass to reduce impact on the environment.

A Termodeck system was installed which utilises the building's thermal mass to provide balanced ventilation with passive heating and cooling via hollow core pre-stressed concrete planks at low velocities. This enables the slab to behave as a passive heat exchanger that releases heat to, or absorb heat from, the air in the slabs.

The building has an air leakage of less than 2 m³/hr per m² at 50 pascals which is considered exceptional, even by modern standards.

Post Occupation Review – The final fit-out of the offices with furniture has been designed separately after completion of the building. Although the design is flexible this has inevitably led to small conflicts. Integrated design of furniture during the building design process would have given better results in this respect.

