

# DEEP RETROFIT OF 1930s END OF TERRACE HOUSE , OXFORD

## Floor insulation installation

### Existing floor construction:

Concrete

### Main insulation options:

- Dig up concrete floor and then lay insulation and a new concrete slab.
- Lay insulation on top of existing concrete slab.

### Selection rationale:

The removal of an existing concrete slab results in significant waste to landfill while insulating on top of the slab results in no significant waste. The potential waste from insulating on top of the slab comes from the need to adjust door heights and other features affected by raising the finished floor level.

Higher levels of insulation are more easily achieved by replacing the slab but this has to be set against the embodied energy wasted by replacing the slab.

### Project description:

Deep retrofit including insulation to roof, walls, windows, floor and new services and renewable energy sources.

### Project location:

50 Cornwallis Road, Oxford OX4 3NW

### Completion:

2022

### Client/ architect/ environmental designer:

1

Some parts of the existing floor needed levelling up so an insulating screed was laid in these areas.



2

Once levelled and set, the screed was ready to be insulated. The areas of floor that were level only needed to be cleared of existing finishes and the concrete exposed.



3

A damp proof membrane was laid to prevent rising damp from the ground. Alternative damp proofing methods include applying liquid damp proof products. The base plate for internal partitions was laid on a section of structural rigid insulation fixed to the floor to minimise thermal bridges.



4

A vapour control layer was laid on top of the insulation to prevent vapour from condensing within the insulation. The vapour control layer was taped to the walls.



5

Two layers of ply sheeting were laid on top of the vapour control layer. In some rooms the top ply sheet will be the floor finish once finished with a hardwax oil.



6

In wet area a waterproofing system was installed to provide a water proof protection to the insulation from spills from bathing etc.

