



# Energy Efficient Homes

## The Retrofit Toolkit

### Sheet no 9: Insulation: Floors

#### Suspended Floors

##### Insulate below the floor but allow for ventilation

A suspended ground floor is made of floorboards fixed to joists above a cavity which is ventilated through air bricks in the outside wall. If draughts are coming through the floorboards these need to be remedied first, and then insulation can be installed between the joists – taking care not to block the air bricks.

#### Cellars and floors above cold rooms

##### Insulate the cold space ceiling

Some homes have cellars, allowing insulation to be installed in the ceiling below the ground floor of the room above. A similar method can be used to insulate the floor of a bedroom above an integral garage or similar cold space below. **BUT: check the fire regulations.**

#### Solid floors

##### Comply with Building Regulations

Adjust skirtings, doors and electrics

Solid floors, often of concrete, present greater problems for insulation. Modern building regulations require them to have insulation beneath, but this is not the case in older homes.

Insulation boards and damp-proof membranes can be installed on top of solid floors, but:

- Insulation of the floor and wall needs to be continuous to avoid thermal bridging.
- The floor will be higher, requiring skirting boards, doors and electrical sockets to be re-positioned.
- The reduced volume of the room must not make it smaller than is allowed in the Building Regulations.

Information about all these factors can be found in the following websites:

[www.cse.org.uk/advice/floor-insulation](http://www.cse.org.uk/advice/floor-insulation)

<https://energysavingtrust.org.uk/advice/floor-insulation>



## Allow for underfloor heating?

If you wish to install insulation underneath a solid ground floor, the disruption may be an opportunity to consider installing underfloor heating, which is the most efficient way of using a Ground Source Heat Pump (GSHP) or Air Source Heat Pump (ASHP). See Information Sheet 11.

## Other sheets available in this series

1. Fabric First: Planning changes to your home?
2. Preparing for Retrofit: Resources on your doorstep
3. The Energy Hierarchy: The Principle behind the Whole Building Plan
4. Opportunities to Begin the Journey
5. First Retrofit Priorities
6. Insulation: Roof & Attic
7. Insulation: Walls
8. Insulation: Windows & Ventilation
- 9. Insulation: Floors**
10. Water Efficiency
11. Heating systems
12. Lighting
13. Renewables
14. Costs & Grants