FACTSHEET

Floor Insulation

Simple, practical information to help make your home warmer, healthier and cheaper to heat. A well-insulated home keeps warmth where you need it: indoors. By slowing heat loss through the roof, walls and floors, insulation can reduce cold spots and draughts, improve comfort and help lower energy bills.

Why start with insulation?

Improving insulation is often one of the best first steps in making a home more energy efficient. If heat escapes quickly, upgrades such as better heating controls, heat pumps or new windows may not perform as well as they should. A “fabric first” approach looks at the building itself first: its roof, walls, floors, draughts, damp and ventilation.

Before you begin

Every home is different. Before choosing insulation, understand how your home is built, identify any damp or repair issues, and consider how moisture and ventilation are managed. This is especially important in older stone, brick or terraced homes, where unsuitable materials can trap moisture and lead to damp, mould or damage to the building fabric.

- **Check the condition first:** repair leaks, damaged pointing, cracked render, blocked gutters and existing damp before adding insulation.
- **Think about ventilation:** warmer, better-sealed homes still need fresh air to reduce condensation and protect indoor air quality.
- **Use the right materials:** older buildings may need breathable, vapour-open materials so walls and floors can continue to dry safely.
- **Get specialist advice when needed:** listed buildings, conservation areas, solid stone walls, flat roofs and homes with damp issues usually need professional input.

Floor insulation: a practical guide

Floor insulation reduces heat loss by adding an insulating layer between your home and the ground or the cold space below. It can make rooms feel warmer underfoot, reduce cold spots and help lower heating bills, especially in draughty ground-floor rooms.

Most homes only need to insulate the ground floor, although floors above unheated spaces such as cellars, basements, garages or passageways may also benefit. If you live above another heated home, floor insulation is usually less of a priority.

Floor insulation is a significant job and should normally be carried out by a professional builder or installer, or by a very experienced and competent DIYer. Before work starts, check for damp, rot, infestation, leaks, damaged timbers and blocked ventilation, because insulation can make existing problems harder to spot and more expensive to fix later.

What type of floor do you have?

Most UK homes have either a suspended timber floor or a solid concrete floor, and the right insulation method depends on which type you have. Older homes may also have stone, tile or limecrete floors, which can need specialist advice because they may need to remain breathable.

- **Suspended timber floor:** floorboards fixed to joists, usually with a ventilated void beneath. Clues include air bricks near ground level or visible joists from a cellar or basement.
- **Solid concrete floor:** common in many homes built from the 1950s onwards. It has no ventilated void below and may feel very solid underfoot.
- **Stone, tile or limecrete floor:** often found in older homes and may need specialist advice, especially where breathability, damp and heritage features matter.

Suspended timber floors

Suspended timber floors are made from floorboards fixed onto timber joists, with a ventilated void below. You may be able to identify one by looking for air bricks near ground level, a cellar or crawl space below, visible joists from underneath, or a slight bounce underfoot.

- Rigid insulation boards or rolls of mineral fibre can be fitted between the joists.
- The insulation should fit tightly with no gaps, sagging or compression, and may need netting or other support to hold it in place.
- Do not block air bricks or other ventilation openings, as the void below a suspended timber floor must stay ventilated.
- If the floor sits above an unheated cellar or basement, the insulation can often be fitted from below; plasterboard may be needed beneath it to provide fire resistance.
- For older traditional homes, vapour-open materials such as sheep’s wool or wood fibre may be more suitable than impermeable materials.
- A vapour-permeable airtightness layer can reduce draughts while still allowing moisture to move safely through the floor structure.

Concrete and solid floors

Many homes built from the 1950s onwards have solid concrete ground floors, and homes built since the early 2000s are likely to have insulation already included in the floor construction. If a concrete floor is not insulated, it can be insulated when the floor is replaced or by laying rigid insulation boards over the top.

- Insulating over an existing solid floor can raise the floor level, so doors, skirting boards, thresholds, stairs, fitted furniture and room heights may all be affected.
- If the floor is being replaced, insulation can be designed into the new slab or screed.
- Older stone, tile or limecrete floors may need breathable, specialist solutions rather than standard rigid boards.
- Always check for damp and make sure any damp-proofing or breathability requirements are understood before work begins.

Draught-proofing is different from insulation

Floor insulation is not the same as draught-proofing: insulation reduces heat loss through the floor fabric, while draught-proofing seals gaps between floorboards and around skirting boards. A good retrofit plan often considers both, but draught-proofing must not block the ventilation needed below suspended timber floors.

Building Regulations and safety

Homeowners are responsible for complying with Building Regulations when adding extra insulation to an existing floor. This can include minimum room heights, thermal performance, fire safety and adequate sub-floor ventilation. It is sensible to speak to the local council's Building Control team before starting, especially where floors will be raised, ceilings altered or ventilation changed.

Questions to ask an installer

- What type of floor do I have, and how have you checked?
- Will the insulation be fitted from above, from below, or as part of a new floor?
- How will you protect ventilation and avoid trapping moisture?
- What materials will be used, and are they suitable for the age and construction of the home?
- Will the work affect floor levels, doors, thresholds, pipes, cables, fireplaces or fitted furniture?
- What fire protection, guarantees and aftercare are included?

Before you agree to work

- Ask the installer to identify the floor type and explain the proposed method.
- Make sure damp, rot, infestation, leaks and blocked vents are investigated first.
- Ask how sub-floor ventilation, moisture control and fire safety will be protected.
- Check whether the work affects doors, thresholds, room height, pipes, cables or access hatches.
- Ask what materials will be used and whether they are suitable for the age and construction of the home.
- Get written details of the work, costs, guarantees and aftercare.

More information

Energy Saving Trust — Floor insulation information and advice
https://energysavingtrust.org.uk/advice/floor-insulation/

Centre for Sustainable Energy — Floor insulation advice leaflet
https://www.cse.org.uk/wp-content/uploads/2023/02/advice-leaflet-floor-insulation.pdf

Need advice?

Warmth Works can help residents understand practical ways to keep homes warmer, use less energy and feel more confident about home energy improvements. Visit one of our drop-in advice and information sessions or look out for Warmth Works events taking place across Todmorden and the Calder Valley.

Together, we can create warmer homes, stronger communities and a clean energy Calder Valley.