

ENERGY SAVING WEEK - INSULATION



Why insulate your home?

When it's cold outside, a well insulated, draught proofed house keeps warmth inside where you need it – helping you to heat your home more efficiently. This means lower bills, less waste and less carbon dioxide entering the environment - one of the biggest causes of climate change. You can insulate any area where heat is being lost from walls, floors and lofts to pipes, cracks and gaps. Here's how...

Walls

There are two main types of walls in UK homes, both can be insulated. The first is cavity walls.

Cavity Walls

If your home was built from 1920 onwards, the chances are that its external walls are 'cavity walls': made of two layers with a small gap or 'cavity' between them. In simple terms insulating a cavity wall means filling that gap.

The easiest way to tell a cavity wall from a solid wall is from the pattern of the bricks on the outside of your house. If your home has cavity walls, the bricks will normally have a regular pattern like this.



If the brickwork has been covered, you can also tell a cavity wall by measuring its width. Go to a window or door on one of your external walls, and take a measurement there. If the wall is more than 260mm deep then it probably has a cavity; a narrower wall (around 220mm thick) suggests that it's solid.

If you have cavity walls, but your home was built in the last 15 years, there's a good chance that the cavity walls are already insulated. The only way to be absolutely sure of whether your home has unfilled cavity walls is to ask a registered installer to assess your property. Call us on **0800 512 012** and we can put you in touch with registered installers in your local area, who will assess your home free of charge.

Unfilled cavity walls

If you do need to insulate the cavities the process is very straightforward – an installer will drill small holes around 22mm in size at intervals of around 1m to 1.5m from the outside of your home. With specially designed equipment, insulation is then blown into the cavity by the installer. Cavity wall insulation is a fantastic way to significantly reduce the amount of energy you need to heat your home and could save you around £115 a year on your fuel bills

Could you get help with insulation costs?

You could indeed. There are lots of grants and offers available to help pay for cavity wall insulation. To see what's on offer in your area, visit our grants and offers database at energysavingtrust.org.uk/grants or call **0800 512 012**.

Solid walls

If you live in a house built before the 1920s, its walls are likely to be solid, with no cavity. The brick work might look like this:



Up to twice as much heat can be lost through an uninsulated solid wall as through an uninsulated cavity wall. Solid walls can be insulated in two different ways: with internal insulation (from the inside) or external insulation (from the outside).

Internal or external insulation –which is best for your solid walls?

Money wise - the most cost-effective way to insulate your solid walls is to do it when you are carrying out other repair or refurbishment work to your walls. If you are re-plastering your internal walls, rewiring your home or fittings a new kitchen or bathroom suite, these are perfect opportunities to consider installing internal wall insulation.

How is a solid wall insulated from the inside?

There are two main ways to insulate a solid wall internally: the first is to put up boards backed with an insulating material, and the second is to build a metal or wooden frame against the wall and fill it with mineral wool fibre before boarding over it (known as building a “stud wall”).

Internal wall insulation can be carried out a room at a time and will not change the outside appearance of your home. It only needs to be applied to walls which have an external surface as well.

How is a solid wall insulated from the outside?

External wall insulation can be installed without disrupting the household, increases the life expectancy of a property by protecting brickwork. If you are repairing or renovating external walls, especially if you need to have scaffolding, this is an ideal

time to consider installing external wall insulation. You may however need planning permission as it will change the outside appearance of your home.

A layer of insulation material is fixed to the walls with mechanical fixings and adhesive, then covered with a special type of **render** (plasterwork) or **cladding**. The finished look can be smooth or textured and painted, tiled, panelled, pebble-dashed (for easy maintenance) or finished with brick slips to provide a real masonry brick finish

Floor insulation

If you've ever stepped from your bed still half asleep only to leap back in again as soon as your feet touch the icy cold floor then you'll know how a draughty home feels. Gaps and draughts around skirting boards and floors are simple to fix yourself with a tube of sealant bought from most DIY stores.

Insulating beneath floorboards will reduce heating bills and improve the comfort of your home. You could save around £50 a year by insulating your floors. Gaps and cracks around floors and skirting boards are easy to fill yourself using a tube of sealant - reducing heating bills by around a further £20 a year.

How does floor insulation work?

Timber floors can be insulated by lifting the floorboards and laying rigid insulation boards or quilts supported by netting between the joists. The process will be made easier if there is access from below, for example, from a cellar.

Under floor insulation can restrict airflow so it is very important to ensure that there is adequate ventilation of the under floor area to avoid the build-up of condensation.

The most common way of insulating solid floors is to lay a new insulated floor above the existing solid floor. Usually this is a layer of insulation board overlaid with chipboard. This will raise the floor level, so the skirting boards will need to be refitted and the door will have to be trimmed to the new level.

How is it installed?

Not all home insulation work has to be carried out by a professional. It may work out cheaper to do the smaller jobs yourself with

Loft insulation

If you have a loft you should think about insulating your loft, or topping up existing insulation. Loft insulation will effectively reduce heat loss for at least 40 years – and will pay for itself many times over in that period.

Can your loft be insulated?

If your home has an accessible loft with no damp or condensation problems, then it should be a perfect candidate for loft insulation. And even if your loft is insulated already, this insulation might need topping up. The recommended depth of loft insulation is at least 270mm of mineral wool. Installing 270mm of insulation in a loft with no insulation will save around 800kg of CO₂ and around £150 on heating bills a year. If there was already 50mm of insulation and you topped this up to 270mm, the saving would be around 230kg of CO₂ and around £45 per year.

Any problems with damp or condensation should be sorted out by an expert in advance of the insulation being installed. As insulation helps stop heat from escaping, it will actually make your loft space cooler, which could make existing damp or condensation problems in the loft worse. If unsure, contact a registered installer for advice.

How are lofts insulated?

There are three main types of loft insulation:

- Quilts – mineral wool and natural wool.
- Blown insulation – mineral wool and cellulose.
- Insulation boards – expanded/extruded polystyrene (EPS/EXPS) and foam products (PUR/PIR).

Can you do it yourself?

While blown insulation should only be installed by an installer with specialist equipment (see page 20 for more information), insulation quilts and boards are suitable for competent DIY-ers to work with. Protective clothing, gloves and masks should always be worn when working with loft insulation.

Can you insulate a flat roof?

You can – from the outside and the inside. Insulating the outside of a flat roof involves laying boards backed with insulation material either on top of or under the roof's existing waterproof layer. Flat roofs can also be insulated from the inside using insulation-backed boards. These jobs should always be left to professionals, so contact us on **0800 512 012** for more information

Energy Saving Recommended

There's a wide variety of brands and products on the market. To find the best loft insulation for you, look for the Energy Saving Recommended logo. Loft insulation products which carry the logo have met strict criteria, which are set by an independent panel and reviewed each year. This criteria ensures they adhere to applicable British Standards and appropriate quality control processes. These products are also designed to make it easy to comply with Building Regulations.

For a full list of Energy Saving

Recommended loft insulation products visit www.energysavingtrust.org.uk/compare

Could you get help with insulation costs?

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Draught proofing

Draught proofing is one of the least expensive and most effective energy efficiency measures you can carry out – no matter how big or small your home.

What's the difference between ventilation and draughts?

For a comfortable and healthy atmosphere in your home, air should be able to circulate around the rooms and slowly be exchanged with fresh air from outside.

Specially fitted vents and fans allow the right amount of air to flow in and out of your house; it's the unwanted gaps in a building that can allow cold air to come in and valuable warm air to escape. In short, draughts are unwanted, unnecessary ventilation.

Where are unwanted draughts likely to happen?

Most homes are likely to have unwanted cracks and gaps in their construction that allow warm air out and cold air in. You'll know exactly where they are when the wind is blowing air through them into your home.

Typical sources of draughts can be gaps between or around floorboards, around windows or doors, pipe-work, windows, loft hatches, electrical fittings, at ceiling-to-wall joints – or any passage from heated parts of a property through to outside or an unheated part of your home.

How do you draught proof unwanted gaps?

The good news for competent DIY-ers is that draught proofing can be a relatively simple job that you'll be able to carry out yourself. In some cases, however – especially in older properties – it can be a more complex and expensive task that's better left to a professional.

Draught proofing options

The materials or items that can be used to draught proof different areas of your home; most of these can be bought cheaply from good DIY or hardware stores, and should come with detailed instructions.

What could you save?

The cost of draught proofing will depend on how many areas you need to draught-proof and whether you need professional installation. Costs and savings will be reduced if you have double glazing as one of the most common sources of draughts is around the frames of single glazed windows. When professionally installed around all doors and windows draught proofing can cost around £200, but this can be reduced to around £100 if you fit it yourself.