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Cavity Wall Insulation

Cavity wall insulation has been around since the 1970's, and many of us have already had it installed now. If you have cavity walls, it is the single most effective energy saving measure you can have installed in your home.

It can save around 35% of the heat loss through your walls, and can save as much as 30% from your heating bills. It also saves around a tonne of carbon dioxide a year. Homes and extensions built since around 1996 will usually have had cavity wall insulation built in as standard under building regulations but this is not always the case, on smaller housing developments in particular.

Cavity wall insulation should only be installed by registered installers, who will offer a 25-year insurance backed guarantee with the work.

The cavities should only be insulated if they are suitable, and the installers should check the following:

- Condition of the pointing, bricks, render and guttering
- Cavity width must be between 50–150mm
- Safe access to all external walls (e.g. scaffolding over glass roofs)
- Identification of any damp issues (not condensation)
- Checking for any rubble in the cavities
- Severe exposure to the elements (wind driven rain)

How do I know if my property has a cavity wall?

In most areas of the country properties were not built with cavity walls until around 1930, however in some areas of Dorset (and elsewhere) cavities were built as far back as around 1875, so it's important to check your walls for the presence of a cavity.



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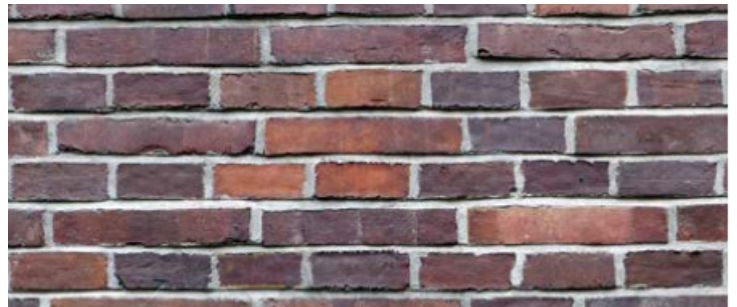
Further information on qualifying benefits and specific locations are available on the website, or by contacting us on FREEPHONE 0300 003 7023. Ridgewater Energy deliver energy programmes under the Healthy Homes Dorset contract. Company registered in England and Wales no. 10585852.

The methods of determining whether you have a property with a cavity wall construction are as follows:

- If walls have stretcher bond bricks (bricks laid long ways side by side) then it has probably got a cavity.
- If it has an English or Flemish bond (stretcher then header, or row of stretchers interspersed with rows of header bricks) then it's likely you have solid walls, although this is not always the case.
- With English or Flemish bond construction, measure the width from the inside to the outside wall (called the reveal), if this is 10.5" or more it should then have a cavity and this could be insulated.



Stretcher bond bricks



English or Flemish bond bricks

But cavity walls were built for a reason so why fill them?

Yes, cavity walls were built primarily to stop rain penetration getting onto the inside wall of the property and causing damp. The materials they use now, allow the air to circulate around the cavity and keep it dry, and do not bridge the cavity in any way. The other reason cavities were built was because of the lower build price of two separate walls compared to building one solid wall, a difference in cost of up to 30%.

The installers no longer use white foam (Urea Formaldehyde) to insulate cavities because if miss-installed, could break down and disintegrate over time.

What materials do they use today?

Installers use two different products to insulate the cavities depending on which is most suitable or which the installer prefers. The first is a polystyrene bead product, which is blown into the cavity with an adhesive to bond it together. This material is preferred where there are external obstructions around the property, where the cavity is very wide and where the risk of water penetration is higher due to high exposure rates from the elements. It is also a more thermally efficient product. Because the beads are round, if any water gets into the cavity it will roll off the poly beads to the bottom of the cavity where it will dry out.

The second is a mineral fibre material, this is manufactured using sandstone, limestone and coke, which is melted down and spun into fibres. These fibres are ground up into loose material which is then blown into the cavities. The fibres are impregnated with an oil (usually sunflower oil), to discourage water penetration through the material. Because the fibre is loose it still allows a degree of air circulation which circulates and allows the cavity to remain dry. This material should not be installed in homes which are exposed to wind-driven rain, or are poorly maintained.



How long does it take to complete and what do they do?

The work on average takes around 2 – 6 hours depending on the size of the property and any obstructions (conservatories, car porches, garages). There is usually a team of two technicians who will drill a series of holes in the outside wall as set out in the manufacturers guidance for the product.

The drilling usually lasts between 30 minutes to an hour, and holes are drilled in between bricks or into render at approximately 1.4 metre intervals depending on the material being used.

All vents are maintained both before and after the installation.

The insulation material is then blown into the cavity until the area is filled. When the cavity is fully insulated, the holes are made good using mortar between bricks or an off-white caulk on render. These should match the existing mortar colour or exterior coating.

The installers should leave the work area clean and tidy and sweep up and hose down any dust as best as possible.

So what grants can I get toward the cost?

There is funding available, some people may be entitled to it free of charge, or with a small contribution, whilst others may not qualify for any assistance. Please enquire as the situation changes regularly.

Loft Insulation

Loft insulation has been installed in new properties for more than 40 years, and in that time many properties and their occupants have benefited from its installation.

Loft insulation is a relatively straight forward measure to install and can save around 30% of the heat loss from your home, and as much as 20% can be saved from your heating bills as a result. This equates to £80 - £300 a year on your heating bills. Loft insulation helps to create an even temperature in your home – keeping your home warm in winter and cool in the summer.

There are several different types of materials which are commonly used:

- Mineral wool (Quilt or blown)
- Sheep's wool
- Polyester fibre or expanded
- polystyrene
- Recycled paper, cellulose or
- fabric
- Hemp



Providing materials are installed professionally, then they all perform similarly, help to keep your home warm and reduce fuel bills. Standards for loft insulation have increased since it was first introduced: In 1977 under the first building regulations standards 25mm (1 inch) was recommended. Current building regulations now recommend 300mm (12 inches) or more, installed into modern new build homes.

How is it installed?

Loft insulation is laid between and then over the ceiling joists in the loft. The material used is a very poor conductor of heat, so when warm air rises it is trapped underneath the layer of insulation and prevented from escaping through the roof.

The insulation is not laid underneath cold-water tanks, so some heat can escape up under the tank to reduce the risk of the tank freezing in winter. The cold-water tanks are also insulated with jackets, as is any associated pipe work in the roof space, that would not be covered by the loft insulation itself.

Ventilation should be maintained in the loft, this should be done by not laying the insulation right up to the eaves and abutting the roof felt. This may mean that closer to the eaves where the roof level is lower, the loft insulation thickness is reduced to allow a gap (50-100mm) to be maintained for air flow.

The back of the hatch should be insulated with a phenolic (Kingspan, Celotex etc) board ideally and the frame of the hatch should be draught-proofed to stop heat loss further and prevent as much moisture entering the loft, which could condense.

Do not use polystyrene to insulate the back of the hatch as it can give off a gas that can react with the plastic casing around electrical wires, causing degradation. It may be necessary in some cases for additional ventilation to be installed, if there is a risk of condensation, or if it becomes a problem. Ask the installer for their advice.

Think about what you need to store in your loft space, you will not be able to re-board a loft on top of the existing joists in the same way, once it has 270-300mm of insulation, as this will sit around 130-180mm above standard joist level.

Attempts to squash it down into a 100-200mm gap can put pressure on your ceilings or make the insulation ineffective as it will lose its ability to trap sufficient air. You can leave a small area of boarding down in the loft and tell the installers not to insulate over that area, or increase the level of your existing joists by cross laying 6" x 2" timbers on top, or invest in a bespoke loft flooring system if storage is essential.

You could simply have a good clear out and reduce your loft storage needs!

There may be grants available to help have the insulation professionally installed, or you may choose to do the work yourself by purchasing the products from an online supplier or DIY store.

To find out if you qualify for a grant, contact us:

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