

Spray foam insulation: a risky business



Spray foam insulation has its place, but is associated with high costs, damaging side-effects and reducing the value of homes in which it is installed.

Spray foam insulation is made of polyurethane which is sprayed wet onto surfaces where it sets into a solid foam. The air pockets in the foam provide the insulation.

It's most often used in lofts where the foam is sprayed onto the underside of sloping roofs. This is done instead of laying rolls of standard mineral wool insulation on the floor of the loft. Spray foam is also used to insulate under suspended floors.

Should I install spray foam insulation?

Probably not.

CSE's view is that in almost all cases installing spray foam insulation carries considerable risks. You should consider other forms of insulation (such as standard mineral wool rolls) first.

If you do use spray foam insulation (see below for reasons why you might) we strongly recommend seeking independent professional advice.

Here's why ...





Damage to the roof

Spray foam doesn't damage roofs *directly*. But by coating the underside of the roof it hides the rafters and roof lining from view. This can make spotting leaks or making necessary repairs difficult if not impossible. If there is a leak, the foam can prevent the roof timbers from drying out and cause them to rot faster than they would have otherwise.

A layer of spray foam will make a survey of your roof impossible. This may mean you can't install solar panels should you wish to.

If spray foam is applied directly to the underside of roof tiles it can cause serious problems. A study by the Health and Safety Executive (HSE) suggests spray foam insulation causes timber decay in more than a quarter of all cases.

Reducing property values

You may find that installing spray foam reduces the value of your home. According to the Royal Institute of Chartered Surveyors and Which, the presence of spray foam can make homes harder to sell, particularly if a survey finds that the insulation has been poorly installed.

Damp and mould

As with all insulation, spray foam can cause condensation problems if ventilation is not considered

during installation. Of the two types of spray foam (see box) closed-cell foam is more likely cause this than open-cell foam. If your home has existing damp issues these will likely be made much worse by installing spray foam as affected roof or floor timbers won't be able to dry out and could rot.

Damage to health

Harmful fumes are produced during the installation of spray foam insulation and in the days it takes the material to set. It is important to ventilate during this time and to clean up any dust and debris produced during installation. If the insulation is poorly installed, the dangerous chemicals can continue to leach out for a long time afterwards.

Cost

Spray foam insulation is much more expensive to install than standard mineral wool loft insulation that is laid on the floor of the loft.

Removal

Spray foam insulation is very difficult to remove. And in some cases, you'll have to replace any materials the foam was sprayed onto, such as roofing timbers. It is also practically impossible to recycle these materials or the foam itself, and safe disposal adds to the costs. The removal of the spray foam can also produce harmful dust or other chemicals. For all these

Look out for scammers

Rogue traders are known to use aggressive sales tactics to pressurise homeowners into installing spray foam insulation.

A tactic these scammers adopt is to tell homeowners that their current insulation is illegal or dangerous, or linked with issues such as damp and mould. The homeowners will be harassed into making a quick decision, without being given time to change their minds.

Some homeowners who have been mis-sold spray foam insulation will then be targeted again a few

years later by the same scammers telling them that the insulation is very dangerous, and they need to pay thousands of pounds to remove it as soon as possible.

It is important to remember that these decisions are never really that urgent. You always have time to think these things through – and discuss them with someone you trust.

You can find more information online about scams from **Citizens Advice** and **Age UK**.





In listed properties

You must obtain listed building consent before installing spray foam insulation anywhere in a listed property.

Given that spray foam is so difficult to remove (see above), this is unlikely to be granted.



reasons, removal of spray foam insulation can be very expensive – in the £1,000s for most properties.

So why on earth would anyone install it?

Notwithstanding the drawbacks described above, spray foam insulation can be a good option in some (rare) cases.

One of these is trickier spaces where it may be more complicated to lay down standard roll insulation. An example of this is under a suspended floor. Here, using spray foam insulation means that the floor can be insulated without having to take up the floorboards. This is much less disruptive.

And there are some benefits for using it on the roof, too. Because spray foam is applied to the underside of the roof, you're not laying insulation on the 'floor' of the loft. This means it can be used as space for storage more easily.

If you do decide to go ahead, make sure that the installer does a thorough survey of your home beforehand. This should include testing moisture levels inside the timbers. Make sure they provide you with a written report. And they should also give you a guarantee for the work.

If you already have spray foam insulation ...

Be vigilant about damp and mould

As spray foam insulation can lead to problems with damp and mould, you may need to be extra conscious of combatting this. You can find advice on this on our condensation, damp and mould advice page.

Should I remove it?

Removing spray foam is difficult, disruptive and expensive. So take the time to carefully consider whether this is affordable, and whether removal is worth the cost and disruption. If you do decide to go ahead, choose a contractor who is accredited and trustworthy. A good place to start looking is trustmark.org.uk.

Remember that you may also need to pay to have standard loft insulation installed after removing the spray foam.

The different types of spray foam

There are two types of spray foam: closed-cell and open-cell. Closed-cell foam is not vapour permeable, which makes it a better insulator but also means that moisture can't move through it. This can lead to problems if moisture becomes trapped causing roof timbers or floor joists to rot. Open-cell foam is more vapour permeable. It is more flexible and is better for sound insulation, but more fragile than closed-cell foam. And it is less effective as an insulator, so you need a thicker layer of it.





A few ways to cut your electricity and gas use, and save money ...



Give your clothes a day in the sun; and give your tumble drier a break. Clothes dried in the fresh air feel great, and there are drying days in winter, too.

When you're cooking, keep the oven door shut as much as possible; every time you open the oven door, a lot of the heat escapes.



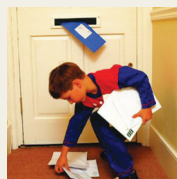
Food in the oven cooks faster when the air inside flows freely, **so don't put foil on the racks.**

Don't leave your phone on charge all night. It only needs three hours – and try not to leave the TV and other kit on standby.



Encourage your children to switch off electric toys and lights that they're not using. They'll soon get the hang of saving energy.

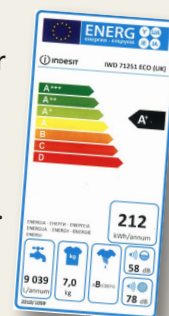
Cup of tea or coffee? Only fill the kettle with as much water as you'll actually use (but make sure you cover the metal element at the base).



Draught-proof!

Fit draught-excluders to your front door, letter box and key hole, and draw your curtains at dusk to keep the heat in.

Buying a new appliance? Check the energy label and buy A-rated goods for the most efficient.



Be a friend to your freezer. Defrost it regularly to help it run more efficiently.

Turn your heating down by just 1 degree. You'll hardly notice the change in temperature, but it'll make a big difference to your heating bill.



Wait until you have a full load before running the dishwasher or washing machine. One full load uses less energy (and water) than two half-loads.

Sleep tight. Make sure all the lights are turned off when you go to bed, or use a low-wattage night light if you do need to leave one on.



New computer? Laptops typically use around 85% less energy than a new desktop PC.



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We're a charity (298740) supporting people and organisations across the UK to tackle the climate emergency and end the suffering caused by cold homes.

Our Home Energy Team offers free advice on domestic energy use to people in central southern and southwest England.

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See all our energy advice pages at
www.cse.org.uk/advice