

Loft conversions

Insulation and ventilation issues

Converting a loft into a habitable space can be a great way of increasing the living space in your home. However, it's vital that the conversion is done properly to avoid problems in the future as a result of poorly installed insulation or inadequate ventilation.

Look for an installer who is able to provide a guarantee and is registered by the Insulation Assurance Authority.

The two critical elements of converting your loft are:

- **Installing suitable insulation to ensure the room is a comfortable environment and does not get too cold in winter or too hot in summer.**
- **Installing ventilation to ensure that the loft space does not have problems with moisture.**

Insulation options

The technical bit

Building Regulations state that the roofs of lofts converted into habitable spaces must achieve a U-value of 0.15 W/m²K. This is a measure of the level of heat transfer between surfaces. The lower the value, the slower the rate of heat loss. Your architect or builder should be able to demonstrate that their plans will meet building regulations.

In a loft conversion, there are lots of areas which need to be insulated (see diagram). These include the ceiling, dormer window sides and roof, stud walls, gable ends, party walls, access doors to the eaves etc. Not all of these will be present in all cases, but where they are they must meet the U-value requirement. It's also important to pay attention to the interfaces between these elements. Ask your builder how they plan to ensure the insulation is consistent throughout the loft, so that there are no cold spots (or 'thermal bridges').

Converted lofts need insulation, but you need to think about ventilation, too



There are several types of insulation suitable for a loft conversion that meet the required U-value. The three most commonly used are rigid insulation, flexible insulation and thermal lining boards. Different types may be used in different areas. The thickness of the insulation material is a significant consideration: some products are thicker and might reduce head room more than you want. Some thinner insulation is not as effective but can be an acceptable compromise in difficult to insulate areas.

Spray foam insulation may be offered as an option, but we do not recommend it as it carries a higher risk of damaging the roof structure.

What if my loft is already converted?

If you have already have a loft conversion and feel that it's not well insulated, you could add more insulation, but this could be disruptive as the existing finish may need to be removed and replaced. You

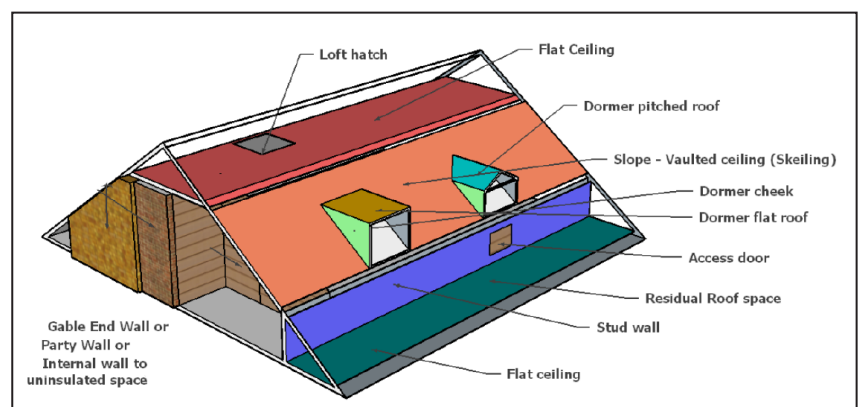
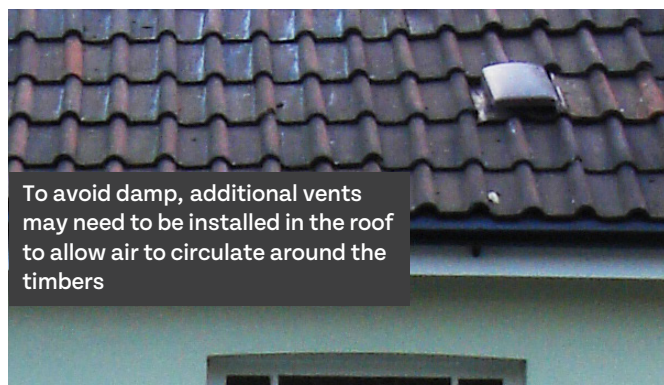


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To avoid damp, additional vents may need to be installed in the roof to allow air to circulate around the timbers

may also lose floor space within the loft room. It's not recommended to just insulate parts of the loft which are easy to reach as this could cause problems with condensation and mould on the remaining uninsulated areas.

If you're planning to have re-roofing work done, the loft space must meet current building regulations after the work is completed. This may require insulating the roof to achieve a U-value of 0.15 W/m²K. Often, insulation can be applied externally while the re-roofing is happening, avoiding the inconvenience of insulating the loft space internally.

Windows

Windows can be a significant source of heat loss so it's important to fit high performance double or triple glazed units into your new loft space. Modern windows must comply with regulations, and their energy efficiency will be rated A to E on a certificate. Look for an installer registered with FENSA, the government-authorised scheme for window and door replacements.

Putting windows into south-facing roof surfaces could significantly help heat and light the loft space and reduce energy use. Blinds should be fitted to velux windows (especially south-facing ones) to avoid overheating in the summer. If you are adding a dormer window, the reveal for this must be insulated along with the rest of the loft.

Damp and condensation

Loft conversions are prone to high moisture levels because moist air from the rooms below rises up into the roof. For this reason, mould in roof rooms is a common problem, particularly visible around timber framed windows. This has the potential to affect your health, or lead to rotting timbers which can be a serious structural problem. Condensation is particularly likely if the loft conversion includes a bathroom, shower or kitchen area.

Ventilation should be considered along with insulation, in accordance with building regulations. These state that if a bathroom or shower is being built then an extractor fan is required.

Heating

Insufficient heating can also significantly contribute to issues with condensation and damp. It is important to make sure there is adequate heating in the new room. This may involve extending the existing central heating system by adding a radiator to the loft room, or installing new room heaters. If the loft conversion is large, you may need to upgrade your existing boiler with a more powerful system, or recalibrate your heat pump to account for the extra space.

Planning permission

Loft conversions that don't change the exterior of the house usually don't require planning permission. But it's worth checking with your local planning department before any work is carried out to make sure it meets all the necessary requirements.

If your loft conversion will need scaffolding, this may be a good opportunity to get solar panels.



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