

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 so that you don't get 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:

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

Insulation options

Lofts converted into habitable spaces must comply with Building Regulations Approved Document Part L1. In order to do this, the roof must achieve a U-value of 0.15 W/m²K. This U-value is a measure of the level of heat transfer between surfaces – the lower the value, the slower the rate of heat loss to the external environment. Your architect or builder should be able to prove to you that their plans will meet building regulations.

In a loft conversion, there are potentially 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 elements will be present in all cases, but where they are they must meet the U-value requirement. It's also important that attention is paid to the interfaces between these elements. Ask your builder how they plan to ensure the

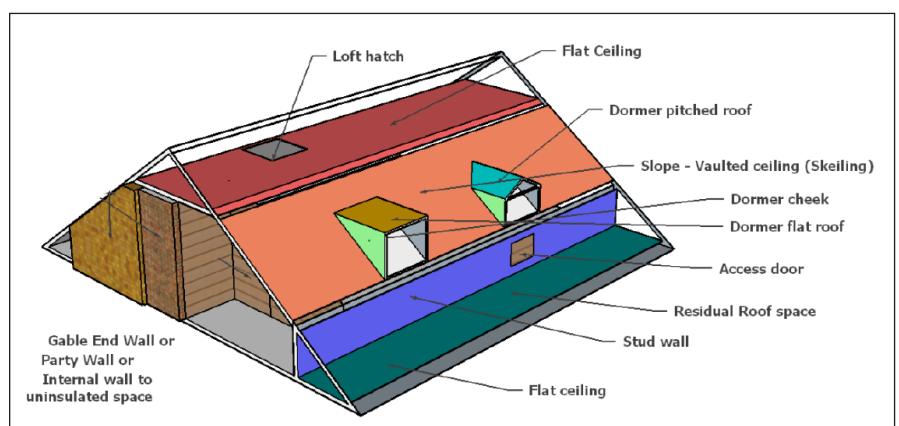


insulation is consistent throughout the loft, so that there are no cold spots (or 'thermal bridges').

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 when converting the roof space, as 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.

What if my loft is already converted?

If you have already have a loft conversion and feel that it is 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 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.

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 warm, 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 incorporates an area where a significant level of moisture will be created, like 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.

Renewable energy

If your loft conversion is going to require hiring scaffolding, this may be a good opportunity for you to fit solar photovoltaic (electricity-generating) or solar thermal (water-heating) panels onto your roof, since some of the installation costs, like scaffolding, can be absorbed into the cost of the overall build.

Planning permission

A loft conversion which does not change the exterior of the property is in most circumstances considered a permitted development and does not require an application for planning permission. But it's always worth checking with your local planning department before any work is carried out to make sure it meets all the necessary requirements.



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