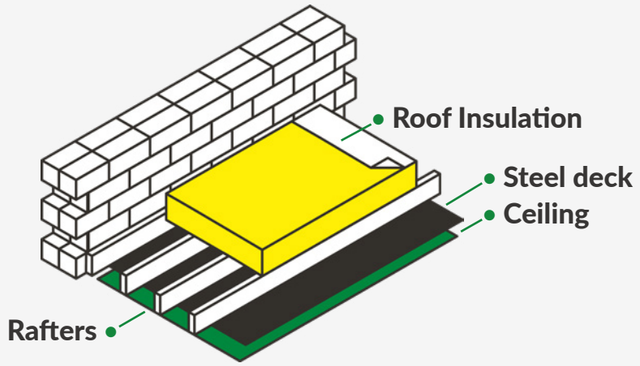
Flat Roof Insulation



What is it?	A flat roof is defined if the roof has a five degree pitch or less. Flat roof insulation is used to enable a room to feel warmer in the winter and cooler in the summer months. Wood fibre, cellular glass, and polystyrene all have good insulation properties, but foam works particularly well and is often found in modern constructions. Warm flat roof insulation works by ensuring the insulating layer sits above the timber rafters. Alternatively, cold flat roof insulation works by placing the insulation layer between or under the timber rafters. This leaves the roof cold and is generally regarded as an outdated method of flat roof insulation.
How is it installed?	There are two approaches to installing flat roof insulation; warm flat roofing works by placing the insulation material on top of the roof, while cold flat roofing involves placing insulation between the joists. If you're seeking a reduction in energy usage, warm flat roof insulation will work best for you. It'll also improve your property's EPC and help to reduce condensation. Cold flat roofing has a much lower installation cost and is well suited to outbuildings, which don't necessarily require all the benefits of warm flat roof insulation. In most cases, insulation can be installed over the top of your existing felt-covered flat roof. It is likely that scaffolding will need to be used, but otherwise, it is minimally disruptive.
How disruptive?	●●○○○
Right for your home?	If you have a flat roof that has not already been insulated, then yes.
Ventilation?	With any form of fabric measure, ventilation of the whole home needs to be assessed and considered. This is because reduced air leakage from one part of the home can mean an increased chance of warm, moist air condensing on a colder surface, potentially leading to damp. Adequate ventilation in the right places will reduce the risk of condensation.

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Find out more by visiting www.groundwork.org.uk/getenergyhelp or scan the QR code.

HOW TO RETROFIT YOUR ROOF

Because heat rises, it is estimated that 25% of the heat in an uninsulated home is lost through the roof.

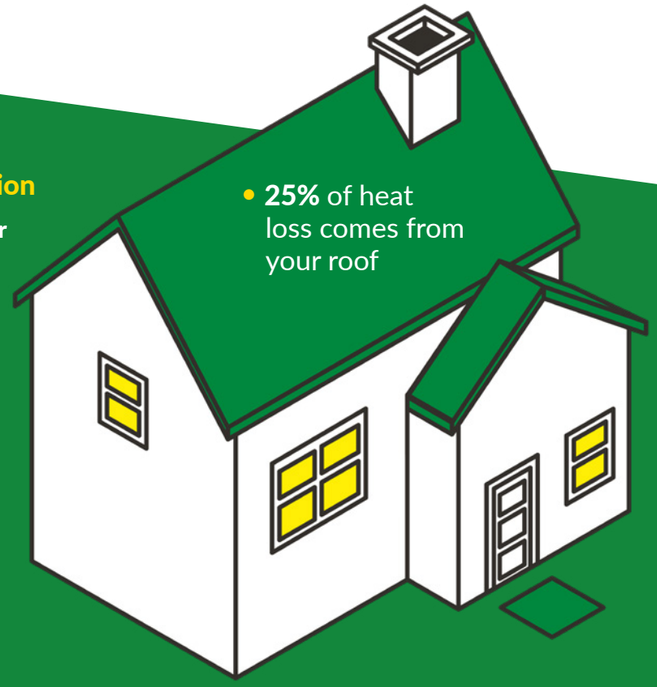
This makes the roof a high priority in retrofit measures. There are three main types of insulation for a roof, and these must be insulated in different ways.

Loft space	Around an attic room (Room-in-roof - RIR)	Flat roof
Glass fibre is laid over ceilings in the loft area.	Insulation installed around the ceilings and walls of the room in the roof.	Insulation laid over or under an existing flat roof structure.
Very easy to do with good energy improvement.	Disruptive but significant improvement.	Can be laid over the roof with best effect, but under the roof with good improvement.

TOP 3

Benefits of improved roof insulation

1. **Reducing heat loss, making a warmer and cosier home.**
2. **Potential energy savings and a reduction in carbon emissions.**
3. **Reducing noise in your home.**



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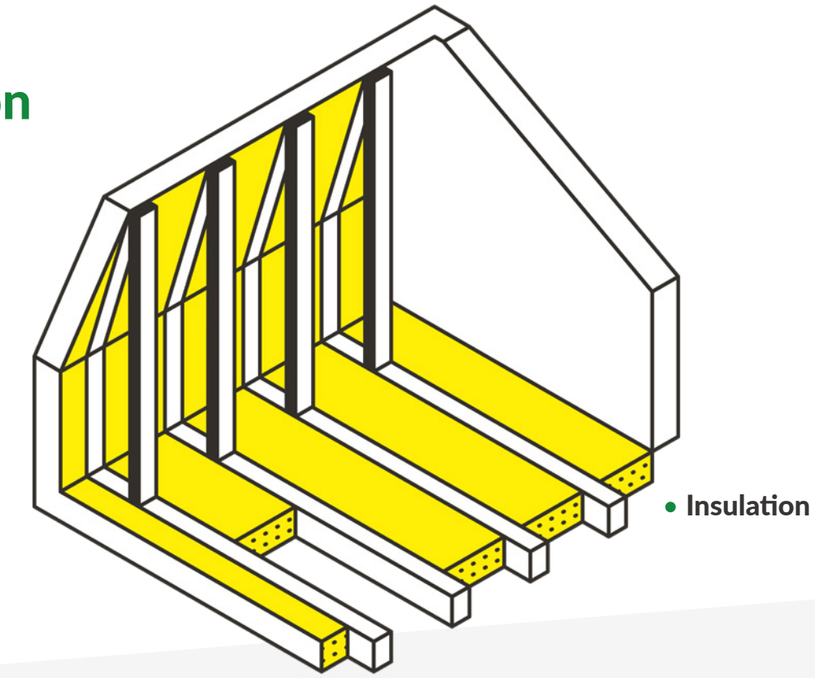
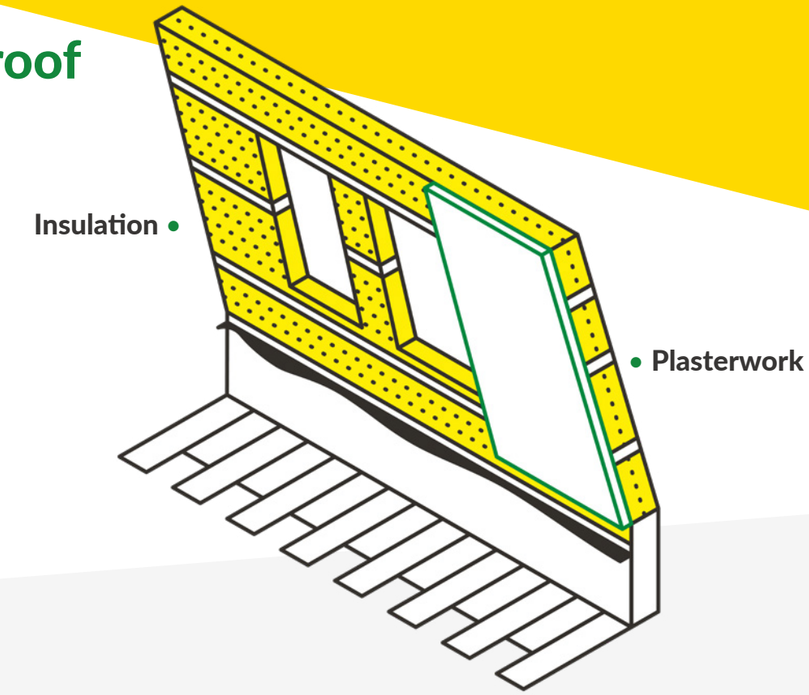
Loft Insulation



What is it?	Loft insulation is laid in the loft space of the roof, reducing the heat escaping through this space. If there is insufficient insulation currently in place, it can be worthwhile to top this up to the recommended thickness, as this will further reduce heating costs. As loft insulation keeps the heat in the lower floors of the home, it results in the loft space itself being cold. If there are water pipes in this space, they must be insulated to prevent them from freezing in the cold loft.
How is it installed?	Loft insulation involves laying rolls of an insulating material in the loft space of the roof over the rafters in overlapping layers to retain the heat in the rooms below. A thickness of 270mm loft insulation is recommended as a minimum amount. The attic space will need to be completely cleared to allow the insulation to be laid. All pipework and tanks in the roof space will need to be insulated against the cold.
How disruptive?	Loft insulation is usually a relatively low level of disruption. The work takes place in the loft space of the roof and takes less than a day to install. However, the cost and disruption caused can increase if the loft is already boarded and/or is being used as a storage space. ● ● ○ ○ ○
Right for your home?	If there is a space in your home that is uninsulated, installing insulation over your rafters is one of the most cost-effective retrofit measures to install. The installation is usually simple, often taking less than one day.
Ventilation?	With any form of fabric measure, ventilation of the whole home needs to be assessed and considered. This is because reduced air leakage from one part of the home can mean an increased chance of warm, moist air condensing on a colder surface, potentially leading to damp. Adequate ventilation in the right places will reduce the risk of condensation.

Room-in-roof Insulation



What is it?	RIR is a term used for insulating a roof space if it has been converted into an attic room or room-in-roof. To be classed as a room in the roof, it must be accessible by a permanent staircase which you can safely walk down facing forwards. The diagram on the right highlights what areas are classed as room-in-roof. The stud walls, slope, and flat ceiling are the areas considered when insulating the room in the roof. Room-in-roof insulation works by trapping heat within your home to create a blanket effect.
How is it installed?	Installing room-in-roof insulation involves insulation boarding being fitted in-between the rafters underneath the existing plasterboard walls. If there are already existing plasterboard walls in the room-in-roof space, they need to be stripped off and replaced once the insulation is installed.
How disruptive?	As a loft conversion is usually a habitable room (e.g. a bedroom), there will be more disruption compared to loft insulation. ● ● ● ○ ○
Right for your home?	If the loft has been converted and there is access to the areas listed above, then yes, room-in-roof insulation is a suitable option.
Ventilation?	With any form of fabric measure, ventilation for the full property needs to be assessed and considered. This is because if we improve the insulation in the roof, the surface temperatures of the other areas will become colder, increasing the risk of condensation. Adequate ventilation in the right places will reduce the risk of condensation.