



# Isover Loft Insulation - Installation Guide



# Isover introduction

Saint-Gobain Isover develop sustainable insulation solutions to protect both your built environment and the natural environment. To maintain our focus we have placed environmental responsibility at the heart of our business strategy. Our vision to lead the UK mineral wool market in energy efficiency and acoustic insulation solutions will be achieved with products that meet the highest thermal, acoustic and fire safety performance levels. We will meet changing regulations first and surpass current regulations for those that wish to excel. Our products will provide best value solutions for the residential, commercial, RMI and technical building environments, be safe to use and help to protect the environment.



## The importance of correct installation

The purpose of this guide is to provide product information and technical guidance for installing Isover insulation into cold roof loft spaces. Quality and accuracy of installation is vitally important in order to achieve thermal performance gains without compromising the moisture and ventilation dynamic of the roof space.

Poorly installed insulation will not only result in under performance but can also cause a number of unwanted issues. These can include issues such as cold bridging and cold spots, to problems associated with condensation and moisture.

## Isover technical advice and support line

Our dedicated technical support team can provide guidance with regulation compliance, product installation and product performance.

**Tel: 0115 945 1143**

**E-mail: [isover.enquiries@saint-gobain.com](mailto:isover.enquiries@saint-gobain.com)**



# Isover insulation performance

## Why use Isover's loft insulation?

The inherent properties of Isover products enable our solutions to provide insulation for three key aspects of the built environment:



### Thermal

Isover offer energy efficient thermal solutions to meet and exceed even the most demanding requirements.



### Acoustic

Isover solutions provide a comfortable living environment, offering protection to inhabitants from exterior noise such as road traffic, trains and airplanes.



### Fire & Safety

Isover insulation is totally non-combustible and fire safe to provide a safer building environment.





# Environmental standards

All Isover products adhere to environmental management system BS EN ISO 14001 in order to:



BS EN ISO 14001:2004

- Minimise how our operations affect the environment
- Comply with all applicable laws, regulations, and other environmentally oriented requirements, and
- Provide comprehensive plans of how Isover can continually improve in the above



**At Isover we take our environmental responsibility seriously. The very nature of our business is to develop insulation solutions to protect both your built environment and the natural environment. That is why we have developed our 3 Point Plan for environmental sustainability. This dynamic plan focuses our efforts on continuously improving the way in which our products and processes impact your environment and seeks to ensure that Isover and our products when in-situ, use:**

- ★ **Less Materials**
- ★ **Less Energy**
- ★ **Less Emissions**

## Environmental information:

Isover not only manufacture insulation materials which in themselves are environmentally sound and used in the construction or refurbishment of extremely energy efficient buildings. We also continue to reduce the environmental impact resulting from the initial manufacture of our materials. Two recent environment projects are detailed below:

*Isover glass mineral wool insulation has up to 86% recycled glass content – the absolute limit for glass mineral wool manufacture. By using up to the maximum 86% recycled content, Isover have reduced the energy demand required for material manufacture by 5% resulting in a lower embodied energy end product. In addition to the aforementioned Isover's ethos of continued environmental improvement has identified and implemented further manufacturing energy saving measures resulting in up to an additional 20% energy saving.*

*Energy consumption is not the only environmental aspect Isover concentrates on. Water use is another key area which Isover has focused on in terms of manufacture, and this time we've implemented manufacturing systems and methods by which our water use has reached the minimum, zero waste water leaves our UK operations. We recycle every drop used in our manufacturing process.*



## Zero ODP

The Ozone Depletion Potential (ODP) is the relative amount of degradation to the ozone layer a product can cause.

## GWP of less than 5

The Global Warming Potential (GWP) is a measure of how much a given mass of greenhouse gas is estimated to contribute to global warming.

## BRE Green Guide Specification

Product rating: Glass mineral wool insulation products have a 'best-in-class' A+ rating (via generic listing). Construction rating: Common roof constructions which are insulated with Isover loft insulation products will typically deliver an A+ rating for that particular element.



# Loft application summary

Installing or upgrading loft insulation is one of the quickest and most efficient methods of improving the thermal performance of new and existing buildings. Isover's loft insulation range is ideally suited for this purpose and has established a strong reputation not only in domestic housing new build, renovation and "top-up" sectors, but also in cold roof applications in the wider construction market, i.e. education, hotel, public amenity / service, retail buildings, etc.

The application of Isover loft insulation material can provide numerous benefits to a building owner, occupant or user. For example Isover loft insulation:

- Reduces utility bills due to reduced heating demand
- Improves building energy performance / efficiency rating
- Helps to maintain warmth in the winter
- Helps to prevent over heating in the summer
- Creates a more comfortable living space by maintaining room temperatures
- Helps to prevent internal condensation
- Reduces external noise ingress
- Reduces a building's carbon footprint
- Makes a building more desirable to potential buyers



## Regulations and incentives

Loft insulation is a vital insulation measure required to ensure the continuity of the thermal envelope around a building. It can be applied as part of a new build specification or as an insulation "top-up" in existing housing applications. Either way it is a relatively simple method by which the thermal performance of a property can be enhanced with savings being made in both heating cost and green house gas emissions.

Whilst incentives and guidance documents like the Green Deal and the Code for Sustainable Homes offer mechanisms and suggestions by which both existing and new build lofts should comply, ultimately Building Regulations Part L in England and Wales\* and Section 6 in Scotland set the minimum standards by which loft insulation measures should abide.

\*Welsh regulations may differ when regulations become independent in 2013.

## Approved Document L (1A and 2A) 2013

Approved Document L (1A and 2A) 2013 retains the design element of fabric elemental backstops, however it is not recommended that these are used as the starting point for building design. Achieving the Target for Fabric Energy Efficiency (TFEE) standard could be significantly dependent on the high performance of one specific feature of fabric design. If this feature was to perform less well than expected, it would significantly impact on performance. These are designated as limited design values to discourage inappropriate trade-offs (e.g. poor elemental U-values being offset by renewables etc.)

As absolute backstop values, the fabric elemental values that remain unchanged from Approved Document L:2010 can be seen in the table below:

Approved Document L 2010	New Build
	Limiting fabric parameter (W/m <sup>2</sup> K)
Cold roof	0.20



# Loft application summary

## Part L1B – existing dwellings renovation of thermal elements

The addition of Isover cold roof loft floor products to existing loft spaces in order to improve thermal performance is a relatively low cost application with good returns. When compared to an un-insulated roof the installation of 270mm of insulation will save approximately £175 per year on energy bills, with a pay back period of as little as two years\*.

Whilst it is highly recommended that all dwellings, where practically possible, upgrade loft insulation to meet a minimum performance of 0.16 W/m<sup>2</sup>K (approximately 250mm of insulation) as a matter of course. When considering renovation projects and upgrading thermal elements in line with Building Regulation Part L1B, the improved thermal performance for cold roof loft floor insulation is detailed in Column **b**) of the table below. This however is only applicable if the threshold U-value detailed in Column **a**) is not reached by the existing insulation. If this U-value is not technically or functionally feasible the thermal performance should be upgraded to the best standard that is technically and functionally feasible. Guidance for which can be sort in Appendix A of Building Regulations Part L1B.

Upgrading retained thermal elements		
Element	a) Threshold U-value (W/m <sup>2</sup> K)	b) Improved U-value (W/m <sup>2</sup> K)
Pitched roof - insulating at ceiling level	0.35	0.16

\*As detailed by the Energy Savings Trust: <http://www.energysavingtrust.org.uk/In-your-home/Roofs-floors-walls-and-windows/Roof-and-loft-insulation>

## Section 6 - Scotland 2010

The standards and guidance given in Section 6 2010 are intended to reduce emissions of carbon dioxide by approximately 30% compared to the 2007 standards. The key changes over the 2007 version are:

- 30% improvement in CO<sub>2</sub> emissions for new buildings
- Expanded role for the use of low carbon equipment
- Improved backstops for fabric U-values and services efficiencies for new buildings

Section 6 includes a range of measures which can be used in setting the target emission rate for a notional dwelling. Included are guideline “notional” U-values, as follows:

Section 6 - Scotland 2010	New Build	
	Area weighted max U-value (backstop) (W/m <sup>2</sup> K)	Isover recommended U-value (Wm <sup>2</sup> K)
Cold roof	0.18	<0.18



# Isover Cold Roof loft floor products

## Description

**Isover Spacesaver Roll** is a high quality glass mineral wool insulation in roll form for thermal application in cold roof and loft floors. Rolls are pre-perforated at 3 x 386mm and 2 x 580mm to allow easy installation between joist centres of 400mm or 600mm.

**Isover Spacesaver Plus** is a high quality glass mineral wool insulation in roll form for increased thermal application in cold roof and loft floors. Rolls are pre-perforated at 3 x 386mm and 2 x 580mm to allow easy installation between joist centres of 400mm or 600mm.

**Isover Spacesaver Ready-Cut** is a high quality glass mineral wool insulation in roll form for thermal application in cold roof and loft floors. Rolls are ready-cut at 3 x 386mm or 2 x 580mm to allow easy installation between joist centres of 400mm or 600mm.



## Manufacturing standards

All Isover products are manufactured in accordance with Quality Management Standard BS EN ISO 9001: 2008 for manufacturing.

All Isover products are manufactured in accordance with the CE marking requirements under the Construction Products Directive, and to product standard: BS EN 13162: 2008 and BS EN 13172 Evaluation of Conformity. The Kitemark demonstrates compliance to the aforementioned product standards and the BBA certification guarantees compliance with the requirements for the Building Regulations (England and Wales).

## Performance standards

Completely fire safe - Euroclass A1 fire rating when classified in accordance with BS EN 13501-1.



EN ISO 13162



BS EN ISO 9001: 2008



# Isover Spacesaver

A glass mineral wool roll providing thermal insulation for domestic loft floors.



- ✓ Enables U-values down to 0.14 W/m<sup>2</sup>K with 300mm of insulation
- ✓ Rolls are pre-perforated at 3 x 386mm and 2 x 580mm to fit between any joist spacing
- ✓ Rolls compressed to fit between joists with no need for additional fixings

## Product Features



### Thermal insulation

- Thermal conductivity of 0.044 W/mK. Helps to meet the requirements of Approved Document L 2013 (England & Wales) and Section 6 (Scotland).



### Easy to install

- Isover Spacesaver is manufactured from high quality glass mineral wool which makes it lightweight and easy to handle, cut and install.



### Water resistant

- Resilient to moisture damage in storage, during transportation and on site during installation.



### Euroclass A1 fire rating

- Totally non-combustible and fire safe.



### Protected planet

- Excellent environmental credentials and helps towards valuable credits for The Code for Sustainable Homes:
  - BRE Green Guide A+ Rating
  - Recycled content of up to 86%
  - Zero Ozone Depletion Potential (ODP) and Zero Global Warming Potential (GWP)

Product	Thickness (mm)	Thermal conductivity (W/mK)	Thermal resistance (m <sup>2</sup> K/W)	Width (mm)	Length (mm)	Roll area (m <sup>2</sup> )
Isover Spacesaver	100	0.044	2.33	1160	9170	10.64
	150	0.044	3.49	1160	6030	6.99
	170	0.044	3.95	1160	5390	6.25
	200	0.044	4.65	1160	3880	4.50



# Isover Spacesaver Plus

A glass mineral wool roll providing increased thermal insulation for domestic loft floors.

- ✓ Enables U-values down to 0.10 W/m<sup>2</sup>K with 400mm of insulation
- ✓ Rolls are pre-perforated at 3 x 386mm and 2 x 580mm to fit between any joist spacing
- ✓ Rolls compressed to fit between joists with no need for additional fixings



## Product Features



### Thermal insulation

- High thermal conductivity of 0.040 W/mK. Helps to meet the requirements of Approved Document L 2013 (England & Wales) and Section 6 (Scotland).



### Easy to install

- Isover Spacesaver Plus is manufactured from high quality glass mineral wool which makes it lightweight and easy to handle, cut and install.



### Water resistant

- Resilient to moisture damage in storage, during transportation and on site during installation.



### Euroclass A1 fire rating

- Totally non-combustible and fire safe.



### Protected planet

- Excellent environmental credentials and helps towards valuable credits for The Code for Sustainable Homes:
  - BRE Green Guide A+ Rating
  - Recycled content of up to 86%
  - Zero Ozone Depletion Potential (ODP) and Zero Global Warming Potential (GWP)



Product	Thickness (mm)	Thermal conductivity (W/mK)	Thermal resistance (m <sup>2</sup> K/W)	Width (mm)	Length (mm)	Roll area (m <sup>2</sup> )
Isover Spacesaver Plus	100	0.040	2.50	1160	7000	8.12
	150	0.040	3.75	1160	4670	5.42
	200	0.040	5.00	1160	3500	4.06



# Isover Spacesaver Ready-Cut

A glass mineral wool roll providing thermal insulation for domestic loft floors.



- ✓ Enables U-values down to 0.14 W/m<sup>2</sup>K with 300mm of insulation
- ✓ Rolls are ready-cut within 600mm and 400mm joist spacing
- ✓ Rolls compressed to fit between joists with no need for additional fixings



## Product Features



### Thermal insulation

- Thermal conductivity of 0.044 W/mK. Helps to meet the requirements of Approved Document L2013 (England & Wales) and Section 6 (Scotland).



### Euroclass A1 fire rating

- Totally non-combustible and fire safe.



### Easy to install

- Isover Spacesaver Ready-Cut is manufactured from high quality glass mineral wool which makes it lightweight and easy to handle, cut and install.



### Protected planet

- Excellent environmental credentials and helps towards valuable points for The Code for Sustainable Homes:
  - BRE Green Guide A+ Rating
  - Recycled content of up to 86%
  - Zero Ozone Depletion Potential (ODP) and Zero Global Warming Potential (GWP)



### Water resistant

- Resilient to moisture damage in storage, during transportation and on site during installation.



Product	Thickness (mm)	Thermal conductivity (W/mK)	Thermal resistance (m <sup>2</sup> K/W)	Width (mm)	Length (mm)	Roll area (m <sup>2</sup> )
Isover Spacesaver Ready-Cut	100	0.044	2.33	3 x 386	9170	10.62
	100	0.044	2.33	2 x 580	9170	10.64
	150	0.044	3.49	3 x 386	6030	6.98
	150	0.044	3.49	2 x 580	6030	6.99
	200	0.044	4.65	3 x 386	3880	4.49
	200	0.044	4.65	2 x 580	3880	4.50



# Application and performance review

## Cold roof solutions

The cold roof solutions detailed in this section of the guide are designed to meet or exceed 2013 Thermal Building Regulations down to zero carbon levels. The table below provides a snapshot the U-values that can be achieved with each solution.

Cold roof solutions		U-Values (Wm <sup>2</sup> K)													
		0.25	0.24	0.23	0.22	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12
	<b>Cold roof</b> Insulation between and over Joists (0.044 W/m <sup>2</sup> K)	<b>0.10</b>													
	<b>Cold roof</b> Insulation between and over Joists (0.040 W/m <sup>2</sup> K)	<b>0.10</b>													

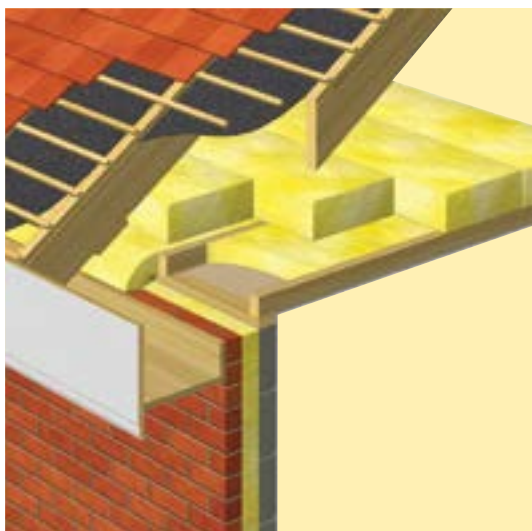




# Application and performance review

## Cold roof

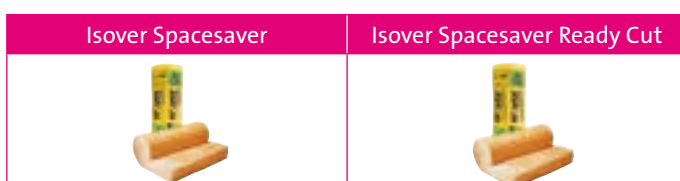
Insulation between and over joists (0.044 W/m<sup>2</sup>K)



- 100mm of Isover insulation between joists
- Second layer of Isover insulation cross laid over joists
- Timber fraction 6.3%

U-value W/m <sup>2</sup> K	Isover Insulation	Thickness between joists (mm)	Thickness over joists (mm)	Combined thickness (mm)
0.21	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	100	200
0.17	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	150	250
0.15	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	170	270
0.14	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	200	300
0.12	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	250 (100+ 150)	350
0.10	Isover Spacesaver or Isover Spacesaver Ready-Cut (0.044)	100	320 (150+ 170)	420

## Isover Products

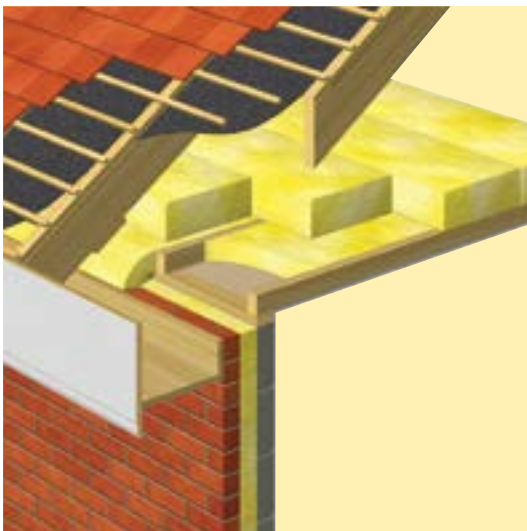




# Application and performance review

## Cold roof

Insulation between and over joists (0.040 W/m<sup>2</sup>K)



- 100mm of Isover insulation between joists
- Second layer of Isover insulation cross laid over joists
- Timber fraction 6.3%

U-value W/m <sup>2</sup> K	Isover Insulation	Thickness between joists (mm)	Thickness over joists (mm)	Combined thickness (mm)
0.19	Isover Spacesaver Plus (0.40)	100	100	200
0.16	Isover Spacesaver Plus (0.40)	100	150	250
0.13	Isover Spacesaver Plus (0.40)	100	200	300
0.10	Isover Spacesaver Plus (0.40)	100	300 (200+ 100)	400

## Isover Products

### Isover Spacesaver Plus





# Installation guide

The Isover Installation guide is a high level advisory source of information primarily focusing on insulation material application, performance and handling. It is not a definitive guide covering all aspects of loft insulation installation. Isover strongly recommends that formal installation information be consulted prior to undertaking works.

## Before you start

*Health, Safety, Material Handling and PPE*

In addition to the standard guidelines set out by the Health and Safety executive the following precautions need to be considered when handling mineral wool products:

- Do not open the insulation packaging in living areas
- Only open the packaging once you are in the loft space itself
- Open it slowly to minimise the spread of loose mineral wool fibres

## Personal Protective Equipment

When using mineral wool insulation it is advised that an appropriate face mask is worn along with other appropriate personal protective equipment such as goggles, gloves and safety shoes. It is also advisable to wear long sleeved tops and trousers to minimise material contact reducing the potential of irritation.

## Working platform

In order to create a safe platform from which to work it is advised that wide robust planks or boards are used spanning a minimum of three joists. These also act to distribute load over a number of ceiling joists to support the fitters weight without causing damage.

Only stand on single joists if absolutely necessary, never stand in between joists as this area will not support any substantial weight.

## Inspection for harmful products

Important, asbestos and asbestos-containing materials are sometimes found in loft spaces. If the presence of asbestos is suspected it should be labelled and reported to the customer. It is advised that work is suspended and professional opinion is sought.

## Insulation material waste

**Insulation material waste:** If insulation material is to be removed from the loft space to either be disposed in the appropriate manner or used on subsequent projects. It is advisable that it be placed in an airtight bag in the loft space prior to removing it through habitable areas.

**Pallet repatriation service:** To further support our 3 Point Plan for environmental sustainability, Isover are pleased to advise that a pallet repatriation service is available to allow removal of Isover pallets from your branch or site location. All repatriated pallets will be either repaired and reused or recycled in an environmentally responsible way.

*To take advantage of this free service please contact European Logistics Management Ltd (ELM) who will arrange for the collection of Isover pallets (minimum quantity applies per collection) from your preferred location – your stockist or contractor simply has to call 0800 282 488 to arrange a collection.*

## Material storage

Palletised packs of Isover insulation with the protective canopy in a good state of repair can be stored outdoors on a flat, well drained, hard standing surface.

Loose packs must be stored under cover and off the ground until required for use. For safety reasons it is not recommended that pallets are stacked.





# Pre-installation assessment

## Installation material

All installation should be in a good state of repair.

## Installation area

Before installation of loft insulation can occur a pre-installation assessment needs to be completed to ensure that the roof space is accessible and clear of debris. Other key areas requiring attention as part of the initial assessment are:

- to ensure there is no sign of past water ingress / damage or obvious possibility of rainwater penetration through the roof structure or other water sources, i.e. leakage from existing pipe work or tanks,
- to ensure adequate cross-flow ventilation. It is essential that the type of roof construction is identified as part of the initial assessment to ensure the structure is adequately ventilated and new / existing insulation measures do not impede ventilation requirements (see installation procedure),

- to ensure there is no evidence of mould growth or wet or dry rot,
- to ensure there is no evidence of condensation,
- to ensure there is no evidence of decomposition or failure to structural supports, and
- to observe if electrical wiring and hot and cold pipe work are in a good state of repair.

If any issues are raised as part of the pre-installation inspection additional expert advice should be sought.

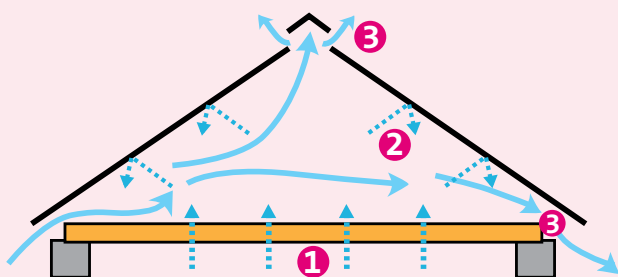
## Installation procedure

Installing or upgrading loft insulation is probably the quickest and most efficient method of improving the thermal performance of new and existing buildings. Installation of loft insulation is a relatively straightforward procedure, however maintaining roof space dynamics in terms of moisture management and ventilation is important to avoid future problems as a result of condensation issues.

## Identify the ventilation method

It is very important to identify how a roof space is ventilated in order to identify what restrictions ventilation requirements have on the loft insulation installation. In the UK there are two primary methods of ventilation:

### 1. A traditional ventilated roof space:



#### Cold ventilated roof

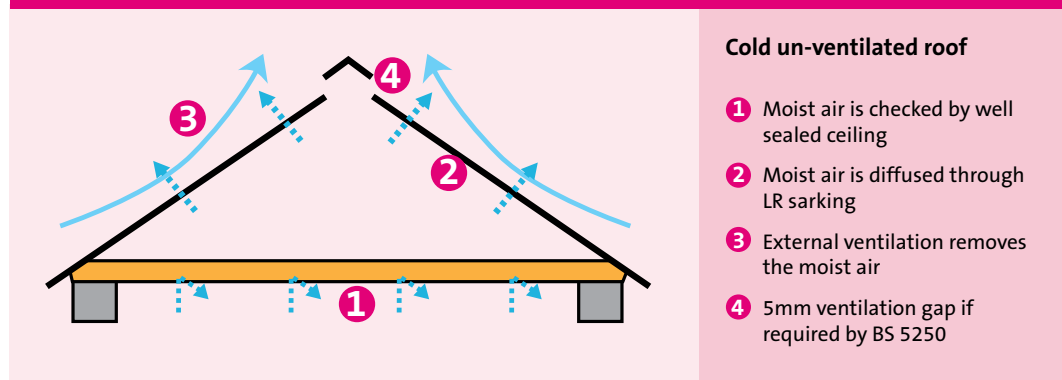
- 1 Moist air permeates through the ceiling
- 2 Moist air is checked by the HR sarking
- 3 Cross-ventilation removes the moist air

Traditionally ventilated roofs which account for a vast majority of existing roof structures allows the diffusion of moist air from living areas through the ceiling make-up into the roof space where it is controlled by cross ventilation. When insulating these structures it is vital to ensure that the ventilation pathways via the soffits at ceiling level (as depicted above) are maintained and not blocked with insulation material.



## Pre-installation assessment

### 2. A modern un-ventilated / breathing roof space:

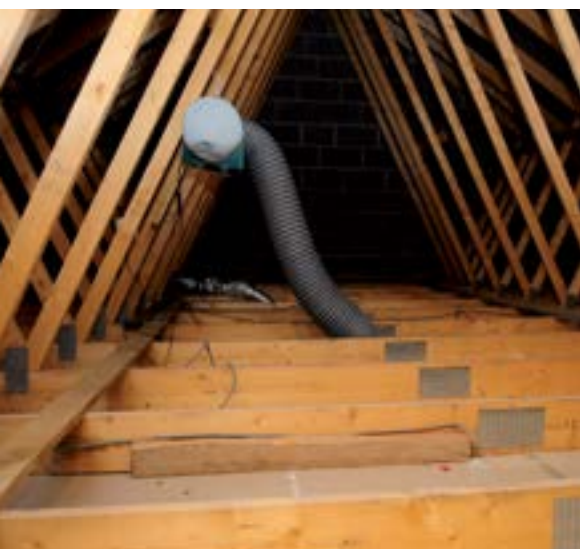


In the case of a modern unventilated roof structure moisture in the roof space is controlled via two methods. Firstly moisture diffusion from internal living areas is stopped by appropriate “sealing” of the ceiling often through the introduction of an additional vapour control layer (VCL) (refer to roof membrane manufactures guidelines). Secondly, moisture in the roof space is dissipated through a breathable roof underlay rather than reliance on cross ventilation. As cross ventilation is not relied on in an un-ventilated roof space insulation material can be laid without the need to maintain ventilation paths as depicted above.

(All installations should be carried out in accordance with relevant regulations and standards).

## Installation step by step

### Before:



- Ensure the application area is free from debris and relatively clean
- If you identify any larger gaps running through the ceiling from the loft space to habitable areas, i.e. around pipe work or electrical wires. Attempts should be made to seal using appropriate filler.
- When “topping-up” loft insulation, identify if the existing insulation is in a good state of repair or requires removing.
- Identify the depth to which insulation is to be fitted.
- Identify roof type as detailed in the roof ventilation section above:
  - o If insulating a “ventilated” roof structure ensure that a minimum unobstructed air path of a minimum of 50mm is left at the eaves. The equivalent of a 5mm gap at ridge level is also required for roofs with pitches over 35° or spans over 10m.
  - o If insulating a “breathing” roof structure ensure the ceiling construction has an appropriate air barrier or vapour control layer in a good state of repair to prevent moisture ingress from habitable areas. If in doubt treat as a ventilated structure.
- Ensure there are no harmful substances such as asbestos. If suspected seek further professional advice before continuing.



## Installation step by step

### Installation:

- Isover loft insulation is either pre-cut or perforated for self selection of insulation roll width. Select the product suited to the rafter spacing required, typically 400mm or 600mm centre spacing.
- It is recommended that the outer packaging is cut to separate individual rolls from the main roll before unwrapping.
- Remove outer packaging whilst maintaining the product in its compressed rolled form.



- First fit between the joists typically with either 100mm or 150mm product. To do so slide the exposed end of the roll into the eaves (ensure a 50mm gap is left to allow for ventilation). To minimise thermal bridging ensure the first layer of insulation fills to the top of the joist.



- Whilst maintaining the roll compression unroll the insulation along the length of the joists filling the void between them. Ensure the insulation is in contact with both joists and recovers to at least the high of the joist.



- If the roll spans the full length of the joist with spare material, simply cut to length (ensuring that a sufficient ventilation path is left at the opposite eave), and repeat the process in the opposite direction in the next joist void.

- If a roll runs out before reaching the opposite eave ensure the end or the next roll is tightly butted up to the previous one so not to get voids in the insulation.
- When cutting the roll ensure a clean straight cut to ensure tightly butted junctions can be achieved.



- When all the voids between the joists have been insulated to be level with the top of the joist, additional insulation needs to be laid at right angles to the joists in order to achieve the required depth.



## Installation step by step

- For this application individual rolls need not to be separated from the main roll. Simply position the roll in the direction it will be unrolled and remove the packaging. Unroll the insulation to cover the joists, care must be taken when joists are obscured from view by insulation material.
- The “cross laid” insulation can consist of multiple layers in order to achieve the depth of insulation required.



As with insulation between joists, when applying a cross laid insulation layer, care must be taken to ensure a minimum 50mm ventilation path is maintained at eaves level.

## Points requiring special attention



**Water tanks:** If a water tank is located in the loft space and rests on or under 300mm above the ceiling joists it is advisable not to insulate under the tank. This allows warmth from habitable areas below to help stop the tank freezing in winter. The loft insulation should be continued up the side of the tank to form a continuous layer of insulation in conjunction with the tanks own insulation as depicted.



Where tanks are raised up above the joists to a height which makes it impractical to insulate up against the sides of the tank, the underside of the tank must be insulated to the same standard as the rest of the tank. Insulate the tank and pipework to levels required by governing regulations.



### Electrical cables and junction boxes:

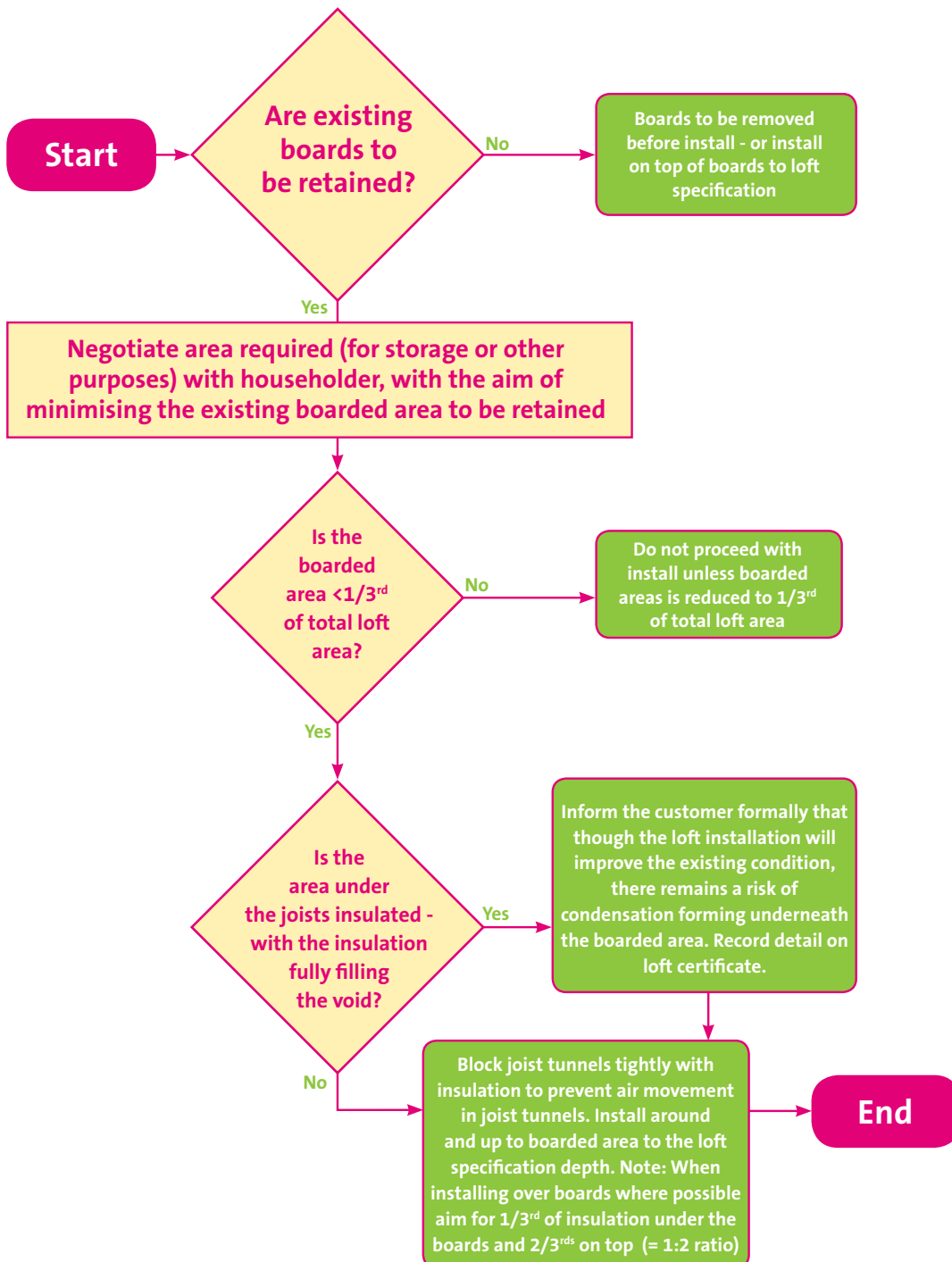
- Junction Boxes: Insulation should be cut back by 75mm around electric junction boxes.
- Electrical Cables (6mm-10mm): 6mm-10mm electrical cables should not be covered with insulation because of over heating issues. Instead they should be laid over the top of insulation.

**Light fittings:** light fittings which penetrated the ceiling, i.e. recessed spotlights should have a minimum insulation free area of 75mm in all plains. (Refer to regulatory requirements)

**Pipes:** If pipe work can be incorporated in the insulation layer then do so to protect against potential freezing. Where pipes are not in the insulation layer additional pipe lagging may be required.



# Quick guide





FSC LOGO

[www.3pointplan.co.uk](http://www.3pointplan.co.uk)

[www.isover.co.uk](http://www.isover.co.uk)

**Isover Order Placement or Order Enquiries:**

Tel: 0800 032 2555  
Fax: 0800 917 9188

**Isover Technical Advice - Buildings Insulation  
Technical Enquiries:**

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Email: [isover.enquiries@saint-gobain.com](mailto:isover.enquiries@saint-gobain.com)

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