



INSTALLATION GUIDE



The Easy Guide to Installation

In general, a house will lose a substantial amount of heat through loft, roof, wall and suspended floor space. Insulating your property is one of the most important home improvements you can make, saving a considerable amount on energy bills and reducing carbon emissions.

All of our natural fibre insulation products are completely safe to handle without the need for protective clothing and contain no harmful chemicals.

Black Mountain products are easy to cut and shape accurately to provide the most effective fit.

Bespoke sizing is available for larger projects and is particularly relevant to period properties which are less likely to have joist widths and spacings which are comparable to those in more modern homes.

Guidelines

Prior to installation we recommend that you follow these simple guidelines:

- Safety checks - secure and prepare the installation area.
- Measurements - approximate amount of insulation needed.
- Preparation - ensure you have the necessary tools.
- Storage - ensure the insulation is kept dry.

Recommended items for use during installation (if applicable):

- Ladder.
- Portable lighting.
- Tape measure.
- Protective clothing if needed in work area e.g. mask.
- Appropriate cutting tool if required e.g. scissors or a sharp blade.
- Light covers - these prevent fixtures from overheating.



Cold Loft

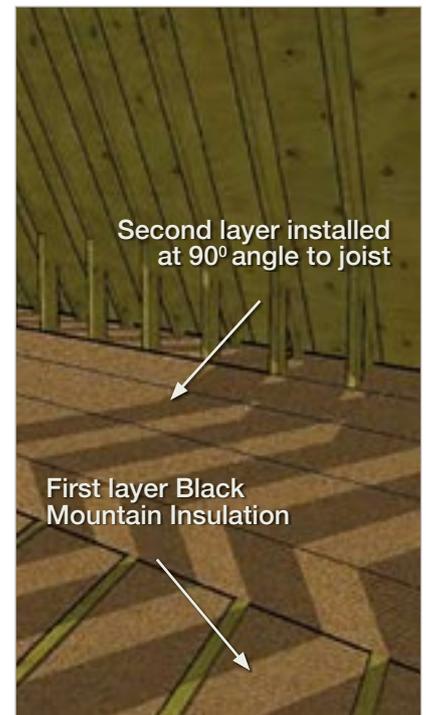
Households commonly use lofts for storage and therefore do not need to be heated. The heat lost through an uninsulated loft is approximately 20% of the energy which is required to heat a typical house. In order to avoid energy escaping into unused loft space, it is recommended that insulation is applied between the joists on the floor of the loft. To maximise insulation efficiency, a minimum thickness of 250mm is recommended.

Installation

- Measure the gap between the joists to determine the appropriate widths necessary.
- The first layer of insulation should fit snugly between the joists to avoid gaps from occurring.
- To prevent heat escaping through the timber joists we recommend that the insulation is installed in layers at 90° angles.
- Black Mountain manufactures special widths to ensure that no gaps are present and heat loss is therefore minimised.

Additional information

- Cutting - Black Mountain sheep's wool insulation is easy to tear across the width of the product. Alternatively hold the material taut between two planks of wood and use a sharp blade or a pair of scissors to cut.
- Ventilation - when installing the insulation at the eaves of the loft, ensure that a small gap or a vent tray is left to allow for regular air movement. This helps to prevent condensation build up.
- Loft boards - when applying insulation into loft joists we recommend that secure boards are put in place across the joists for safe working conditions and loft access.
- Light covers - where exposed lighting fixtures are present, it is important to ensure that there is no direct contact with the insulation and that any additional wiring is placed over the top of the insulation to prevent overheating.
- Storage - if loft space is used for storage then a raised floor section should be applied to an appropriate area of the loft.
- Recovery - Black Mountain compress their products to reduce embodied energy, however, the product will regain its full thickness within 72 hours.



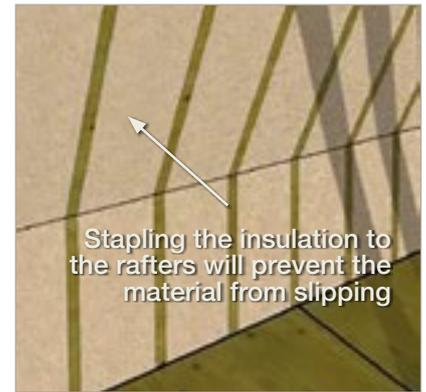
Warm Loft

Loft renovations are an increasingly popular means of maximising property value and space. Natural insulations are ideal solutions for attic conversions due to their unique ability to manage moisture.

The most critical aspect of insulating a warm loft is to understand the type of roof structure. There are two types of roofing felt present in most households; 'breathable membrane' and older bitumen based 'non-breathable membrane'.

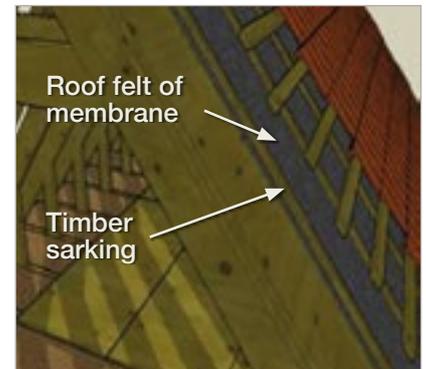
Installation - Breathable Membrane

- The insulation should be applied up to current building regulations of 225mm.
- If the rafters do not meet this depth then battens should be applied to increase the depth and meet the required thickness.
- Staple the material to the timber rafters or fix string across the material to prevent the insulation from falling out.
- Alternatively mesh netting can be used to maintain the position of the insulation once installed.
- To complete the installation, plasterboard should then be applied and a vapour barrier where necessary.



Installation - Non-Breathable Membrane

- The key difference between a breathable membrane and the older bitumen membrane is the 50mm ventilation gap required for non-breathable membranes.
- This gap allows any moisture absorbed by the insulation to pass through the material and evaporate through circulating air currents.
- To ensure the 50mm gap is maintained, the insulation can be stapled to the edge of the rafters which will help prevent it slumping into the cavity.
- Alternatively wire mesh can be applied to the sides of the rafters which will ensure that the ventilation gap is maintained.



Timber Frame Walls

The construction of timber frame buildings continues to grow throughout the UK and much of Europe.

Natural insulations are ideally suited to timber frames, drawing out excess moisture and conditioning the wood which helps prevent structural damage in the future.

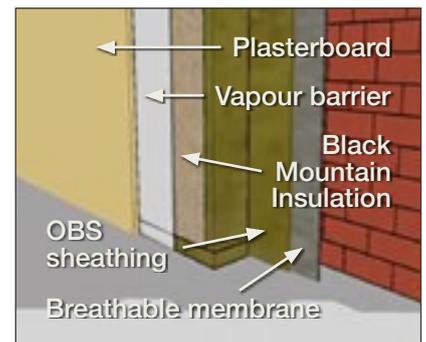
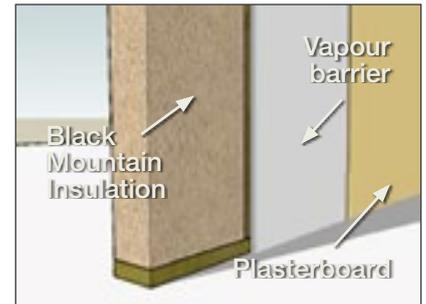
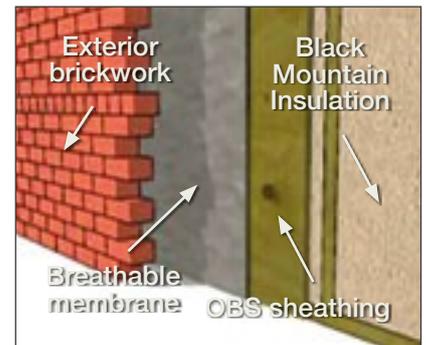
Installation - Outer Layer

The key components to include when constructing an external timber wall are:

- Breathable membrane.
- OSB or other suitable sheathing boards.
- Black Mountain insulation.

To further increase the thermal efficiency of the structure, it is recommended that 'reflective' breathable membranes are used, which are available from leading manufacturers.

- The cavity between the outer brick skin and the breathable membrane should not be filled with additional insulation.
- It is important that the breathable membrane is exposed to circulating air currents.
- After measuring the 'drop length', select the measurements that are required or alternatively cut the insulation from the rolls or batts.
- The insulation is simply pressed between the stud framework as the timber is rough enough to catch the material and hold it in place.
- If the 'drop length' is extensive it may be beneficial to staple the insulation to the top wall plate and every ½ meter to prevent it from falling out during installation.
- Once the insulation has been fitted then the vapour barrier and plasterboard can be applied to complete the structure.
- Alternatively, plasterboards with incorporated vapour barriers are available to simplify the installation process.



Floors

A key source of heat escaping in houses is through the floors; this can account for up to 10% of the total energy losses. The high level of heat loss is because many households are unaware whether they have floor insulation and are not conscious of the benefits a properly insulated floor can provide.

Installation - Access From Below

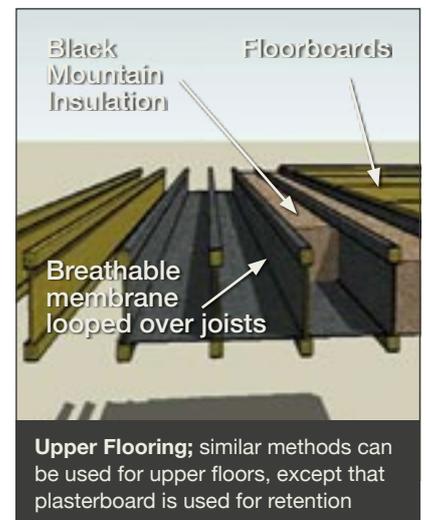
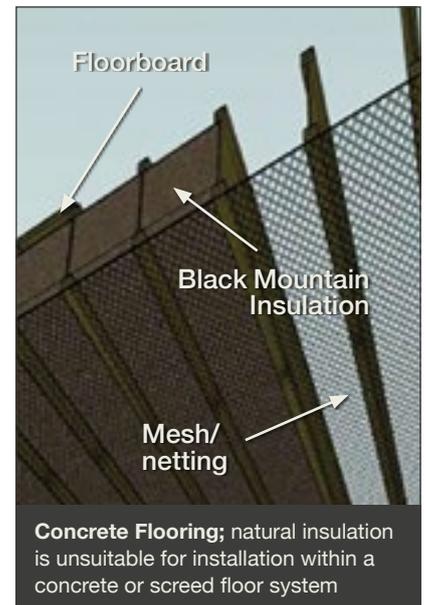
If there is a cellar or a crawl space under the floor then the installation process is quick and straight forward:

- Where necessary, remove a section of the floor boards to gain access to the crawl space.
- Measure the distance between the joists.
- Select a width of insulation that is wider than the measured distance to ensure that there will be no gaps.
- Insert the insulation between the joists, ensuring that there are no gaps present when butting two pieces of insulation together.
- Staple the breathable membrane or plastic mesh to the underside of the joists to hold the insulation in place.

Installation - Access From Above

Where access below the flooring is not available, floorboards and panels should be removed in order to allow access from above:

- After the floorboards have been removed, ensure that all nails are also removed from the top surface of the joists.
- Take a roll of breathable membrane and staple the edge to the top of the first joist.
- Following this, staple the membrane to the bottom of the first joist then spread the material across to the adjacent joist and staple to the bottom of the second joist.
- Continue to 'wrap' the membrane over the top of the second joist and repeat until all joists are covered.
- Install the insulation to the required depth.
- When the insulation is in place, apply additional breathable membrane over the surface of the joists and the newly installed insulation to avoid any dust or liquids damaging the insulation.



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