

# CEILING LEVEL ROOF INSULATION

## Homeowner Information

**An un-insulated or poorly insulated roof costs you money and harms the environment.**

There is now grant aid available through the SEI Home Energy Savings scheme to help you improve your home using roof insulation.

Up to 30% of the heat produced in your home may be escaping if your roof is un-insulated. Ceiling level roof insulation is generally the most cost effective of any energy efficiency upgrade made to a house and often does not come with a large price tag when the potential savings are considered.

Even if you already have insulation in your roof, you may still be losing heat if it is damaged, less than is necessary or incorrectly installed. For example if you have a thin or worn layer of insulation it would be beneficial to replace it or improve its performance by adding another layer.

### Case Study

Mary has a four bedroom detached house 150 m<sup>2</sup> in size. She has an annual heating bill of €1,600. Mary previously had 100mm of fibreglass insulation in her attic but decided to upgrade the insulation in her attic to the recommended 300mm following advice from SEI and the various contractors she rang. As well as resulting in more comfortable living conditions, this simple low cost measure now saves Mary over €250 every year on her home heating bill. Mary was also able to secure grant aid from the Home Energy Savings scheme to help her with the cost of this. Typical costs for this type of upgrade are approx. €700 - €1,000 (excluding grant).

### The Benefits of Roof Insulation

- Reduction in heating bills
- Increased comfort levels
- Low capital cost
- Short payback periods
- Reduction in Greenhouse Gas emissions

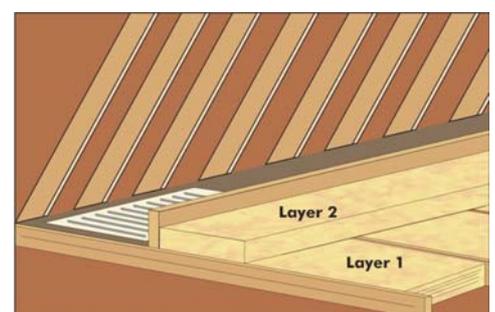
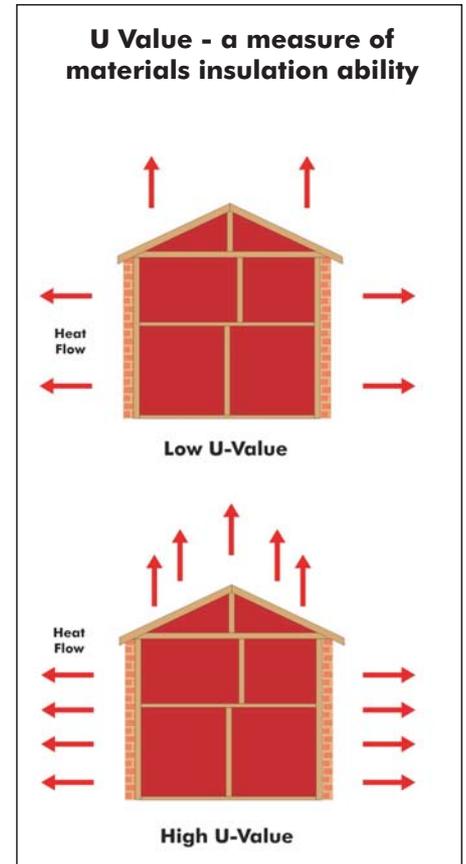
### Effectiveness of Insulation

The effectiveness of an insulating material is measured using a 'U-value'. A U-value is a measure of how much heat is conducted through a material. Insulation installed correctly will have a low U-value as it will allow only small amounts of heat to pass through, thereby keeping your home warm. Homeowners availing of attic insulation grants under the Home Energy Savings scheme should aim to achieve a U-value of 0.13 W/m<sup>2</sup>K or better (i.e. lower). It is vital that you ask the installer that the price quoted for will achieve the required U-value, or the best U-value that can be achieved in your circumstances.

### Key Roof Insulation Facts and Tips

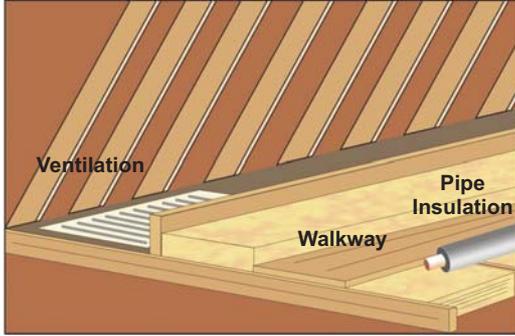
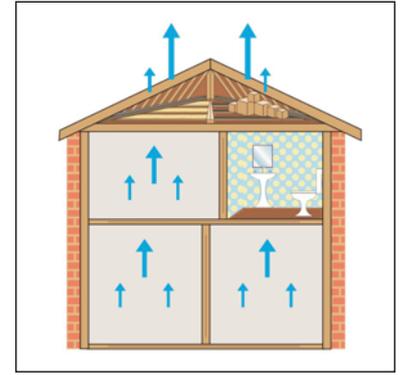
#### Insulation Installation

If you have a pitched roof with an attic space, one of the simplest ceiling insulation methods is to lay a quilt (Mineral Fibre, Glass Fibre, Hemp, Sheepswool materials are all capable of satisfying the performance requirements of the scheme). If this type of material is to be used, it is important to ensure that the quilt is installed in two layers and in two directions in order to ensure the maximum benefit is achieved. There are many other products that can insulate effectively at ceiling level. Where your contractor suggests that one of these products is the best for you, have him explain in detail the benefits and standards associated with the product. If you are considering using a "multifoil" insulation in conjunction with another insulation material, it is important to check any installation requirements with the supplier.



### Attic Storage

Compression can cause an insulating material to lose some of its insulating properties. It is therefore important, where possible, to minimise the amount of items stored in the attic which may compact or compress the insulating material. Where storage is required, laying a second roll of insulation (above the joists) is impractical and in this situation, try to make certain that the storage area set aside is located over an area of the house which has a lower heating requirement, e.g. over bathrooms as opposed to the living/sitting room. Alternative arrangements like raised storage areas above the level of the insulation could also be discussed with your Contractor.



### Insulation Integrity

Installing insulation properly is very important. Where insulation is installed between joists, it is important that it is cut tight and is installed with no gaps. Gaps between the insulation will cause it to become less effective as heat loss will occur in these areas.

### Ventilation

Adequate ventilation is important in an attic to help prevent damp or mould from occurring. It is therefore important to ensure ventilation openings at the eaves of the house are left unblocked after installation of your insulation.

### Water Storage Tanks and Pipes

When an attic is insulated at ceiling level, its temperature is reduced, as most of the heat previously lost from the house through the attic is now being kept within the house. Therefore, it is necessary to insulate the water tank and pipes to ensure that they will not freeze during cold weather. This will also help to minimise heating costs associated with heating water.

### Walkway

Your insulation contractor should install a permanent walkway in your attic to ensure you have easy access to cold water tanks or other fitted appliances.

### Flat Roof

In many cases, it is easier and more cost effective to insulate a flat roof internally using an insulated plasterboard. This means lowering the height of the ceiling but may be a better option than insulating externally.

## I Need Roof Insulation....What Do I Do next?

- a) Get more information on the Home Energy Savings scheme in one of three ways:
  - Download more information from [www.sei.ie/hes](http://www.sei.ie/hes)
  - Request more information by ringing 1850 927 000
  - Contact the scheme directly at [hes@sei.ie](mailto:hes@sei.ie)
- b) Contact a registered contractor for ceiling level insulation from the SEI registered contractor list available on [www.sei.ie](http://www.sei.ie).\*
- c) Once you have selected a suitable contractor, complete the Home Energy Savings Scheme application form
- d) Consult the SEI Home Energy Savings scheme Buyers Guide below and the SEI Guide "Detailed Guide to Insulating Your Home" available at [www.sei.ie](http://www.sei.ie).

\*It is recommended you contact a number of registered contractors to ensure you receive the best quality available at a competitive price

## A Buyers Guide to Roof Insulation

**Choosing and installing roof insulation should not prove to be a difficult process. However, there are important decisions to make and a few rules to apply to ensure that your attic insulation will be to your satisfaction and meet your requirements.**

It is vital to look for high quality when choosing your roof insulation. When choosing



a product, you should ask your supplier or contractor to demonstrate to you how and why the proposed insulation product meets the performance requirements of the Home Energy Savings scheme and that it complies with all relevant Building Regulations.

Please visit [www.sei.ie/hes](http://www.sei.ie/hes) for a list of registered contractors for this scheme. We recommend that you shop around and view other installed systems before making your final decision in order to get the best product and the best value for money. It is a good idea to discuss attic insulation with any friends, neighbours or workmates who may already have it installed, to give you a better insight of advantages, improvements and any problems people have experienced when they had it installed.

### Questions to ask your supplier and contractor

SEI have compiled a list of questions you should ask your suppliers and contractors prior to making a purchase. It is in your best interest to make sure you are satisfied that all your questions are answered. If an answer seems too complicated, then ask for a simpler explanation. If someone is selling you roof insulation they should be happy to provide an explanation to your satisfaction.

### Sizing and Design

- What type of attic insulation would the supplier recommend for my dwelling? Why are other types less suitable?
- What type and amount of insulation should I install in order to achieve the most cost effective solution?
- What thickness of the recommended insulation will I need to achieve the required U-Value (0.13W/m<sup>2</sup>K for ceiling level insulation, 0.20W/m<sup>2</sup>K for rafter level insulation)?
- If I need storage space in my attic, where is the best place to have this, and how will the insulation be designed to minimise any heat loss caused by having an attic storage space?
- Will the insulation be installed according to the manufacturer's installation instructions?
- Will the system result in any dampness or condensation on the walls or trouble with ventilation? How will this be addressed/avoided?

### Equipment

- Is the product approved by Irish Standards (IS), British Standards (BS) or European Standards (EN)? If not, why not?
- Is the product NSAI Agrément certified?
- Is the product suitable for my attic?
- Is the product sufficiently fire resistant?
- Will the product affect the ventilation in the attic when installed?
- I want to use my attic as storage, what is the best type of insulation for my home?
- Will my water storage tanks and pipe work in my attic be insulated as part of the works?
- Will a walkway to the water storage tank be included in the works?
- How will the installation affect the Building Energy Rating (BER) of the dwelling?
- Will the installation satisfy all rules and requirements for the receipt of a grant under the Home Energy Savings scheme?

### Installation

- Is the contractor on SEI's list of Registered Contractors? (Remember, if the contractor is not listed you cannot apply for or receive a grant under the Home Energy Savings scheme)?
- Can the installer complete work in accordance with best practice guides/technical guides supplied by the material supplier?
- Does the supplier offer delivery, installation and after sales service?
- What level of training do the installers involved in the installation have?
- Which trade associations' do the installers belong to?
- How many similar systems has the contractor installed? Are local references available?
- How long will the installation take?
- What additional pieces of work need to be done to my home/attic to prepare for the installation? Will the contractor provide all of these services and at what cost?
- What work will need to be carried out to get my home back to its original condition? Will the contractor provide all of these services and at what cost?

### Costs and Payment

- Does the quotation cover all costs associated with the works?
- What is the range of annual cost and energy savings under average conditions?
- What are the financing options or payment terms? At what stage will I get my SEI grant payment?
- Are there any additional costs?

## After-Sales Service

- Is there any guarantee with the insulation?
- Is any professional maintenance (by the Contractor or similar) required? If so, how often?
- For how long does the supplier provide emergency service work if required?