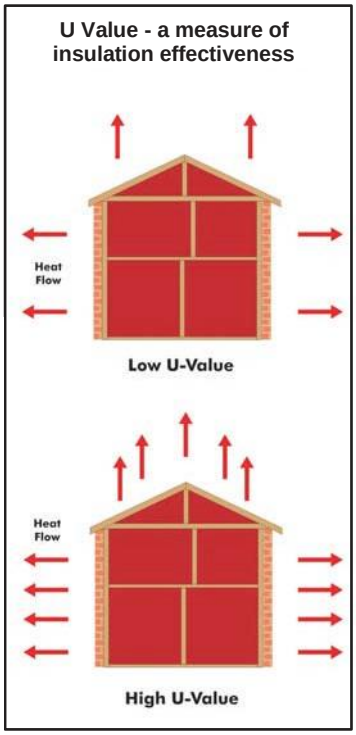
WALL INSULATION

Homeowner Information

An un-insulated or poorly insulated wall costs you money and harms the environment. On average, a home loses 20 - 30% of its heat through its walls and even more if they are not properly insulated.

There is now grant aid available through the SEAI Home Energy Savings scheme to help you improve the wall insulation in your home.



Case Study

John has a four bedroom detached house with a footprint of 150 m^2. He has an annual heating bill of €1,600. John previously had no wall insulation in his cavity walls and was advised to install grey pumped polystyrene beads in his walls following advice from SEAI and various contractors he rang. As well as resulting in more comfortable living conditions, this simple measure has resulted in annual savings in his heating bill of approximately €300. John was also able to secure grant aid from the Home Energy Savings scheme to help him with the cost of this. Typical costs for this type of upgrade are approx. €700 - €1,000 (excluding grant). If John had solid masonry or hollow block walls he would need to use internal or external insulation for his home. Even greater savings could be achieved for internal or external insulation given that the walls, prior to insulation, would have poorer heat retention properties. The internal insulation would cost approx. €7,000 - €10,000 (excluding grant), while the external insulation solution would cost him €10,000 - €20,000 (excluding grant). The grant scheme recognises the extra costs associated with these insulation solutions, and provides additional grant aid where they are installed in accordance with the scheme.

The Benefits of Wall Insulation

- Reduction in heating bills
- Increased comfort levels
- Reduction in 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 structure. Correctly installed insulation will have a low U-value as it will allow only small amounts of heat to pass through, thereby keeping your home warmer for longer. Homeowners availing of wall insulation grants under the Home Energy Savings scheme are required to install wall insulation which should achieve a U-value of 0.27 W/m 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 for your circumstances.

Key Wall Insulation Facts and Tips

Wall Types

The first step in getting wall insulation is establishing the wall type of your home. The three main wall types are cavity walls, solid walls and hollow block walls. A building contractor or architect will be able to tell you what type of wall your home has if you don't already know yourself.

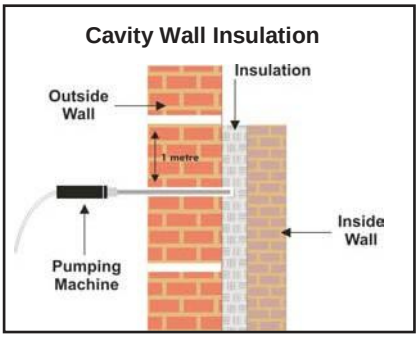
Wall Insulation Types

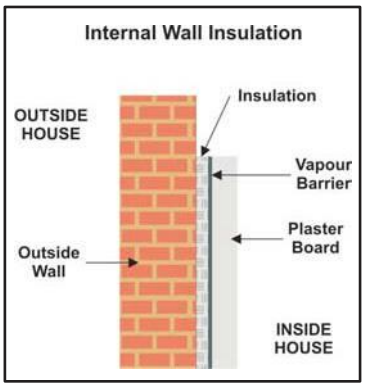
There are three main types of wall insulation, Which suit different walls and homes:

A) Cavity wall insulation
B) Internal Insulation
C) External insulation

Cavity Wall Insulation

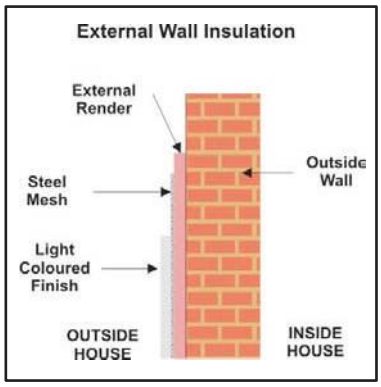
A cavity wall consists of two rows of brick or concrete block with a cavity or space between them. Injection of insulating product from the outside is the best method for insulating this type of wall.





Internal Insulation

If your home is built using solid wall or hollow block construction methods, cavity fill insulation is not an option. Internal insulation (sometimes referred to as 'dry-lining') involves fixing insulation to the inner surfaces of your external walls. This usually involves fixing an insulation board to the walls and covering it with a vapour barrier layer and plasterboard. One of the main disadvantages of internal insulation is the loss of room space; this may be minimised by using high performance insulation products that are thinner. While this is often a more affordable option than installing external wall insulation, the loss of space and potential necessity to take out and re-fit fitted kitchens and appliances can result in people choosing the external insulation option.



External Insulation

External insulation involves fixing insulating materials such as mineral wool or expanded polystyrene slabs to the outer surface of the wall. The insulation is then covered with a special render to provide weather resistance. A steel or fibreglass mesh is embedded in this render to provide strength and impact resistance. External insulation is an expensive solution; however additional problems (other than poor levels of insulation) suffered by some homes such as rain penetration, poor airtightness or frost damage can be solved by an external insulation system, provided that the product is NSAI Agrément certified.

I Need Wall 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.seai.ie/hes
- Request more information by ringing 1850 927 000
- Contact the scheme directly at hes@seai.ie

b) Contact a registered contractor for wall insulation from the SEAI registered contractor list available on

c) Once you have selected a suitable contractor, complete the Home Energy Savings Scheme application form

d) Consult the SEAI Home Energy Savings scheme Buyers Guide and the SEAI Guide “Detailed Guide to Insulation” is available at www.seai.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 Wall Insulation

Choosing and installing wall 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 wall insulation will be to your satisfaction and meet your requirements.

It is vital to look for high quality when choosing your insulation product. Where available you should request the contractor get an NSAI Agrément certified product or equivalent

Installation of wall insulation requires a level of competency, experience and the use of specialist equipment, meaning

installation is not a DIY job for most people nor will the scheme provide support to people completing D.I.Y. installations. Please visit www.seai.ie/hes for a list of registered contractors. It is a good idea to discuss wall 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 an d installer

SEAI 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 wall insulation they will be happy to provide an explanation to your satisfaction.

Sizing and Design

- What type of wall do I have?
- What type of insulation would you recommend I use for my wall? Why are other types less suitable?
- What type and what amount of insulation should I install to achieve the most cost effective solution?
- Will the insulation be installed according to the manufacturer's installation instructions and the NSAI Agrément or equivalent?
- How will the installation affect the Building Energy Rating (BER) of the dwelling?

Equipment

- Is the product NSAI Agrément certified or equivalent?
- Is the product suitable for my wall type? If not, why not?
- Will the installation satisfy all rules and requirements for the receipt of a grant under the Home Energy Savings scheme?

Cavity Wall Insulation

- Is the cavity suitable for fully filling with insulation? How has this been or will this be assessed?
- What system is recommended for my cavity wall?
- Will the system result in any dampness or condensation on the walls or trouble with ventilation?
- How will this be addressed/avoided?

Internal Wall Insulation (Dry-Lining)

- Will the product be suitable for use on my property?
- What thickness of the recommended insulation is required to achieve the target U-value of 0.27 W/m K? (Insulation materials such as polyurethane, polyisocyanurate or similar provide the best insulation for a given thickness).
- Will there be any risk of condensation forming behind the insulation system especially at joints and at the edges?
- How will this be addressed/avoided?
- Will there be any issues with electrical wires running behind the insulation? Will sufficient protection for the wires be included where necessary?
- Will window and door reveals be adequately insulated as well?
- Will this system restrict my ability to paint or wallpaper the inside of my home or fix any new fittings to my walls?

External Wall Insulation

- Will the product be suitable for use on my property?
- What thickness of the recommended insulation is required to achieve the target U-value of 0.27W/m K?
- Will the system result in dampness in the walls?
- Will the system be at risk due to moisture absorbed where it comes into contact with the ground? How will this
- danger be avoided?
- How will the insulation affect the breathability of the walls? Is there any risk of condensation?
- Will I need planning permission because of any change in appearance of the home?
- Will this system restrict my ability to paint or fix any external fittings to the outside of my home?

Installation

- Is the Contractor registered as an Approved Installer of the system? (Relevant for cavity wall and external insulation)
- Will the Contractor complete work in accordance with technical guides supplied by the material supplier and the conditions set out in the NSAI Agrément certified or equivalent?
- Does the supplier offer delivery, installation and after sales service?
- What is the training or accreditation of the Contractors involved in the installation?
- Which trade association’s do the Contractors belong to?