

A Homeowner's Guide To Wall Insulation

HOW YOU CAN BENEFIT FROM INVESTING IN WALL INSULATION:

- Reduce your heating bills by improving your energy efficiency
- Increase your home comfort levels
- Support the climate by reducing your own greenhouse gas emissions

Do you know that you are entitled to a grant through the SEAI Home Energy Grants programme to help improve your home insulation?

On average, a home loses 20-30% of its heat through its external walls, if they are not properly insulated. This loss of heat not only costs you money in the form of higher heating bills, but it also harms the environment by increasing greenhouse gas emissions. The SEAI Home Energy Grants programme offers grants to help you improve the comfort of your home through the installation of wall insulation.

THREE TYPES OF WALL INSULATION

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. Your Contractor will also be able to advise you on the type of ventilation required to ensure that your home ventilation is in accordance with Chapter 10 of NSAI's S.R.54 - Code of Practice for the energy efficient retrofit of dwellings. Please refer to our separate **Homeowners Guide to Ventilation** for more information.

1. External Wall Insulation

External wall insulation is the best way to insulate your walls. External insulation involves fixing insulation 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.

Although external insulation is an expensive insulation solution, it can also resolve other issues, such as rain penetration, poor airtightness and frost damage, provided the product used is NSAI Agrément certified. This is also an excellent opportunity to give your home a new look, subject to local planning laws.

2. 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.

3. Internal Wall Insulation

Internal insulation, also referred to as dry-lining, involves fixing insulation to the inner surfaces of your external walls. This usually involves attaching an insulation board to the walls and covering it with a vapour barrier layer and plasterboard. While this is often a more affordable option of insulation, it should be noted that you will lose room space and will have to take out and refit kitchens, cabinets and appliances.



1. External Wall Insulation



2. Cavity Wall Insulation



3. Internal Wall Insulation

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It is vital that you look for high quality when choosing your insulation product.

The effectiveness of an insulating material is measured using a 'U-value'. This measures how much heat is conducted through a material and how much heat passes through your home. Correctly installed insulation will have a low U-value, meaning that only small amounts of heat will pass through, thus keeping your home warmer for longer.

Homeowners availing of wall insulation grants under the SEAI Home Energy Grants programme are required to install wall insulation achieving a U-value of 0.27 W/m²K.

It is vital that you ask the installer if the insulation product they are using will achieve, at the very least, the minimum required U-value, in order to qualify for the SEAI grant.

CASE STUDIES

Cavity Wall Insulation

John has a four bedroom detached house with a footprint of 150m². 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 consultation with the SEAI and various contractors.

Having availed of the Home Energy cavity wall insulation grant, John now benefits from more comfortable living conditions as well as a cost saving of over €300 each year on his home heating bill. Typical costs for this type of upgrade are approx. €700 - €1,000 (excluding grant).

QUESTIONS TO ASK YOUR SUPPLIER AND CONTRACTOR

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. Your contractor must use an NSAI Agrément certified product or equivalent and must also be NSAI registered to install both external and internal wall insulation.

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 DIY installations.

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 into the advantages, improvements and possible issues people have experienced when they had it installed.

SEAI has 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

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

EQUIPMENT

1. Is the product NSAI Agrément certified or equivalent?
2. Is the product suitable for my wall type? If not, why not?
3. Will the installation satisfy all rules and requirements for the receipt of a grant under the Home Energy Grants programme?

EXTERNAL WALL INSULATION

1. Will the product be suitable for use on my property?
2. What thickness of the recommended insulation is required to achieve the target U-value of 0.27 W/m²K?
3. Will the system result in dampness in the walls?
4. Will the system be at risk due to moisture absorbed where it comes into contact with the ground? How will this danger be avoided?

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5. How will the insulation affect the breathability of the walls? Is there any risk of condensation?
6. Will I need planning permission because of any change in appearance of the home?
7. Will this restrict my ability to paint or fix any external fittings to the outside of my home?
8. Will you reinstall my gutters, piping, satellite dish?
9. Will my home need an ESB Networks service alteration to alter the electricity supply cables?

CAVITY WALL INSULATION

1. Is the cavity suitable for fully filling with insulation? How has this been or will this be assessed?
2. What system is recommended for my cavity wall?
3. Will the system result in any dampness or condensation on the walls, or interfere with ventilation?
4. How will this be addressed/avoided?
5. How big is the cavity? Under the programme guidelines, the cavity space must be in line with NSAI standards and specifications.

INTERNAL WALL INSULATION (DRY-LINING)

1. Will the product be suitable for use on my property?
2. What thickness of the recommended insulation is required to achieve the target U-value of 0.27 W/m²K? (Insulation materials such as polyurethane, polyisocyanurate or similar provide the best insulation for a given thickness).
3. Is the product NSAI Agrément certified?
4. What level of ventilation is required for my home?
5. 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?
6. Will there be any issues with electrical wires running behind the insulation? Will sufficient protection for the wires be included where necessary?
7. Will window and door reveals be adequately insulated?
8. Will this system restrict my ability to paint or wallpaper the inside of my home or fix any new fittings to my walls?

INSTALLATION

1. Will the installation satisfy all rules and requirements for the receipt of a grant under the Home Energy Grants programme?
2. Is the Contractor on the SEAI's list of registered contractors? (Remember, if the contractor is not listed you cannot apply for or receive a grant under the Home Energy Grants programme).
3. Is the Contractor registered as NSAI?

(Relevant for cavity wall and external wall insulation).

4. Will the Contractor complete the work in accordance with technical guides supplied by the material supplier and the conditions set out in the NSAI Agrément certified or equivalent?
5. Does the supplier offer delivery, installation and after sales service?
6. What level of training or accreditation do the Contractors, involved in the installation, hold?
7. Which trade associations do the Contractors belong to?
8. How many similar systems has the Contractor installed? Are local references available?
9. Will any of the installation be sub-contracted? How much?
10. Who is ultimately responsible for what segments of work?
11. How long will the installation take?
12. What additional pieces of work need to be carried out at my home to prepare for the installation? What work will need to be carried out to get my home back into its' original condition following installation? Will the Contractor be providing all of these services and at what cost?

COSTS AND PAYMENT

1. Does the quotation cover all costs associated with the works?
2. What is the range of annual cost and energy savings under average conditions?
3. What are the financing options or payment terms?

AFTER-SALES SERVICE

1. What guarantee or warranty is available for the system?
2. Is any ongoing professional maintenance required?
3. For how long does the supplier provide emergency service work, if required?

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I NEED WALL INSULATION, WHAT DO I DO NEXT?

1. You can get more information on the Home Energy Grants programme in one of three ways:
 - Request more information by ringing: 01 8082100
 - Contact the programme team directly at: info@seai.ie
 - Visit: www.seai.ie/grants/home-grants
2. Contact a registered contractor for wall insulation from the SEAI Registered Contractor list at: <https://hes.seai.ie/GrantProcess/ContractorSearch.aspx>
3. It is recommended you contact a number of registered contractors to ensure you receive the best quality available, at a competitive price.
4. Once you have selected a suitable contractor, follow the steps to complete the Better Energy Homes programme online application form: www.seai.ie/grants/home-energy-grants/how-to-apply
5. In some cases external wall insulation may require:
 - a) Planning permission. Please check with your registered contractor or local planning authority.
 - b) An ESB Networks service alteration. Please check with your registered contractor and contact ESB Networks if a service alteration will be required. Fees may apply.
6. The next step is to have the works carried out. It is in your best interest to make sure you are satisfied that all questions are answered. If an answer seems too complicated, ask for a simpler explanation. If someone is selling you a new boiler they will be happy to provide an explanation to your satisfaction.

NOTES:

- **New Building Regulations (Part L):** If you are applying for External or Internal Wall Insulation and you commence works after 1st November 2019 you will be required to comply with the new Building Regulations (Part L) as a condition of your grant payment. The Building Regulations require that after any alteration to a minimum of 25% of your home's surface area, your home either achieves a minimum B2 BER rating or your heating system and attic insulation comply with the Building Regulation standards.
- To qualify for a grant, all works must be undertaken by an SEAI registered Contractor in accordance with the technical requirements set out in SEAI's Domestic Technical Standards and Specifications, the Better Energy Homes Contractor's Code of Practice and Quality Assurance & Discipline Procedures (QADP). For more information visit: www.seai.ie/energy-in-business/contractor-supports
- The applicant shall have a formal contract in place with each of their chosen registered Contractors before works commence.
- The contract of works agreed is between the Homeowner and the Contractor only. SEAI accepts no liability or responsibility for any breach of contract between the Homeowner and the Contractor.
- For the full list of Terms & Conditions please refer to the Home Energy Grants Programme Application Guide, available at: www.seai.ie/grants/home-grants/how-to-apply



BEFORE



AFTER