# FS04: Wall Insulation

**About**

**Typical costs:**

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**Typical annual savings:**

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Wall insulation can either be placed on the inside of the wall (internal wall insulation) or the outside (external wall insulation). When internal wall insulation in applied, this can either be rigid panels fixed directly to the existing wall or the installation of a new stud wall with an insulating material added between this and the existing wall. External wall insulation uses panels of insulation fixed to the outside of the property and covered in a weather proof finish of your choice; typically, a render, brick or stone façade

**Benefits**

* The insulation maintains your home at a more consistent temperature; making your home feel warmer in the winter and cooler in the summer
* Pay less on your heating bills
* *Internal wall insulation:* There is no impact on the external appearance of your property and no need for scaffolding.
* *External wall insulation*: Improves the appearance of your building which can increase the value. Can also provide some protection to the structure from wind and rain.

**Key Considerations**

*Internal Wall Insulation*

* Permissions: Planning permission is not normally required for internal wall insulation though this may differ for listed buildings as it changes the fabric of the wall.
* Materials: There are two options for internal wall insulation; insulation boards made of foamed plastic which are fixed directly to the existing walls or the installation of a new stud wall with an insulating material added between the new and existing walls.
* Ventilation*:* Any existing issues with damp must be dealt with before installation as adding internal wall insulation can exacerbate the issue.
* Remedial work: This type of insulation will reduce room size which may make it unsuitable in particularly small rooms; however, there are some slim materials that can be used.
* Installation process: Internal wall insulation can be disruptive and will require internal fittings (e.g. skirting boards, radiators, pipework) to be removed during installation. Due to the impact on decorative features such as cornicing, it may be inappropriate for some buildings. Insulation should also be installed in communal areas such as stairwells and lobbies.

*External Wall Insulation*

* Permissions: External wall insulation is not appropriate for buildings which are listed or protected as it changes the appearance of the building. You may need to seek planning permission and apply for a building permit.
* Repair work: This type of insulation may not be appropriate if there are structural issues with the building.
* Materials: Ask an expert about the different types of materials available and check the materials adhere to fire safety and building regulations. A range of different types of materials can be used; some of these materials are more sustainable than others, ask your installer about the different options available.
* Remedial work: Wall fixings, such as rainwater pipes, power cables or satellite dishes will need to be removed and re-attached. For properties with a balcony, your installer should include a solution to prevent cold travelling through the structure and causing internal damp (‘thermal-bridging’).
* Installation: The installation process requires scaffolding and will produce some noise and dust. However, the work is not very disruptive as it all takes place outside. You will need to work with all the flat owners to install external wall insulation; for advice and information on how to do this, please see our Guide [LINK].

**Further Information**

* Case studies:
	+ [Blackley](https://www.nia-uk.org/consumer/media/1094/kingspan-lakeside-manchester.pdf) (UK)
	+ [Saint Etienne](http://www.lowenergyapartments.eu/wp-content/uploads/2016/03/LEAF_Case_study_showcase_France_D8.4_Feb16.pdf) (France)
	+ [Glasgow](http://www.retrofitscotland.org/case-studies/james-nisbet-street-roystonhill-glasgow/?filters=1491) (UK)
* Useful information:
	+ [Insulation and Cladding Association](https://www.inca-ltd.org.uk/) (INCA): Trade Association with list of approved installers
	+ [National Insulation Association](https://www.nia-uk.org/) (NIA): Trade Association with list of approved installers
	+ [Solid Wall Insulation Guarantee Agency](https://www.swiga.co.uk/) (SWIGA): Quality Assurance Framework and Guarantee for solid wall insulation provides access to technical expertise in the event of any defect arising in the design, workmanship or materials

[Energy Saving Trust](http://www.energysavingtrust.org.uk/sites/default/files/reports/Solid%20wall%20-%20internal%20wall%20insulation_0.pdf): more detailed information about internal wall insulation