

## External solid wall insulation at a glance

- Could cut your heating costs by up to 40% and save you around £400 every year
- Installation is more cost effective when you need to re-render anyway
- Hundreds of pounds of grant funding may be available
- Installation is usually complete in under 2 weeks

## £ and CO<sub>2</sub>

The actual pounds and pence savings and carbon dioxide savings you will get will depend on many things about your home and lifestyle:

- How much you pay for your insulation
- How hot you have your house in Winter
- How long you have your heating on for
- How much you pay for your fuel
- Which fuel you use

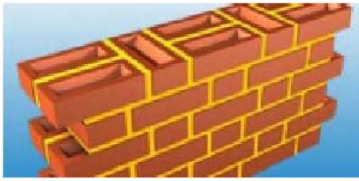
## Is solid wall insulation suitable for my home?

External solid wall insulation is usually applied as part of an overall refurbishment scheme.

- Where your external walls need re-rendering
- Where external walls are poorly insulated
- Where external walls are deteriorating or are insufficiently weather tight, causing damp, draughts and heat loss
- Where wall cavities are bridged or blocked, making them unsuitable for cavity fill insulation

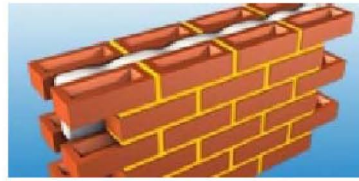
Solid walls are usually brick or stone and are found in most houses built before the 1920s. The easiest way to tell is from the pattern of the bricks on the outside of your house.

## Solid Wall



If your home has solid walls, the bricks will tend to be placed head-on and lengthways in an alternating pattern like this.

## Cavity Wall



If your home has cavity walls, the bricks will tend to have a regular pattern like this.

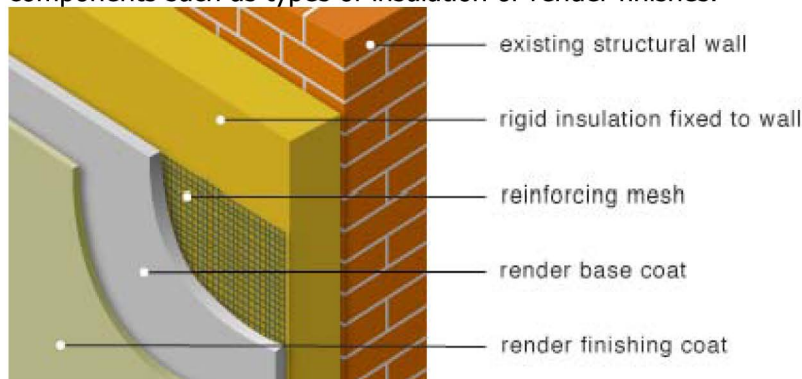
External wall insulation is a good alternative to installing internal lining insulation which is disruptive to the inside of your home and would alter critical internal dimensions or make room sizes too small.

## Systems

The design and installation of insulated render is imperative to ensure the correct system is utilised.

Though not always, insulated render systems usually come in the form of proprietary products. In these instances, standard details and construction methodology are determined by the system manufacturer. The products are accredited by a third party such as the BBA or BRE for use in specific situations. They are normally guaranteed when installed by the manufacturer's approved contractors.

Though construction technique remains the same, systems differ through their use of components such as types of insulation or render finishes.



## A typical insulated render system includes:

- The attachment of standard-size insulation boards to the existing wall using mechanical fixings (sometimes accompanied by adhesive) through to the wall
- Mesh reinforcement to form a key backing to the
- Render base coat
- Finish coat

## Finish topcoats

Many different types of finish coats are available:

### *Silicone and acrylic renders*

Suitable for application onto thin coat or thick coat render systems, they provide resistance to cracking. Additionally, the inclusion of silicone in any render adds a high water-repellent quality, whilst allowing water vapour to pass freely through the render. This property makes for a dry surface to the render which helps it resist algae growth and lime bloom. A wide range of textures and finishes are available.

## Aggregate dash

(aka Spardash or Pebbledash): applied as a background for dry dash or roughcast finishes.

## Scratch plaster

Or Scraped finish: a pre-coloured specialist render with a large grain size that will provide a textured finish when scratched.

## Roughcast render

Is a cement-based, polymer-modified, self-coloured render incorporating an aggregate of small, evenly-sized pebbles, to provide a textured finish.

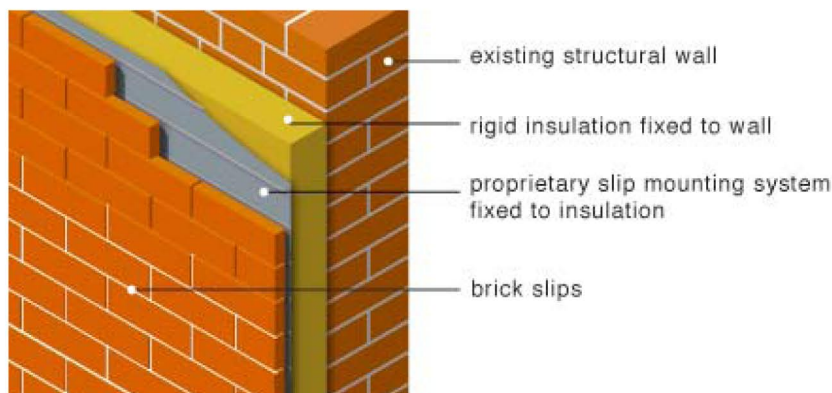
## Spray render or tyrolean finish

Hardwearing and weatherproof, Tyrolean render is achieved by repeated spraying using a spatter machine, building-up to a minimum coat thickness of 4mm applied onto a smooth, coloured, polymer-rendered layer.

## Coloured Smooth / Flat Render

Usually available in a variety of colours, it provides for a smooth, clean finish

## Brick Slips



Brick slips are an established and preferred method of replicating the impression of a traditional brick wall. Mounting systems come in a variety of formats including profiled polystyrene and wire mesh backings.

## Techie stuff about insulation

Heat will always flow from a warm area to a cold one. In winter, the colder it is outside the faster heat from your home will escape into the surrounding air.

Insulation slows down the rate at which heat escapes, keeping as much of it as possible inside your home for as long as possible. How? Insulation works by coating or filling walls or lofts with a layer of material that only allows heat to pass through it very slowly. This reduces what is known as the U value of the walls – the rate at which heat can flow through them. The lower the U value, the more slowly heat is lost so you will need less heat to keep your home warm. Using less heat will reduce your carbon dioxide emissions and save on your fuel bill.

You may see references to the “thermal conductivity” of the insulation material. This is often known as the “lambda ( $\lambda$ ) value” and is measured in “watts per meter-kelvin” (W/mK). The thermal conductivity of a material describes how easily heat passes through it. The best insulation materials have a low lambda value as a material with a low thermal conductivity will need a thinner layer than a material with a high thermal conductivity.