

## A guide to a comfortable, efficient home

# Wall insulation

Selecting the right insulation method depends on your building's unique needs, site conditions, and practical considerations.

Choosing the right wall insulation can greatly improve your home's warmth, energy efficiency, and comfort. Whether you insulate externally or internally depends on factors like your home's design, available space, and any conservation requirements. This guide outlines the key options and considerations for effective wall insulation.

### External or internal insulation? Internal insulation

From a heat-loss perspective, external wall insulation (EWI) is usually more effective, as it creates a continuous thermal layer around the building and avoids weak points, such as around floor joists. However, practical considerations will guide the choice:

- Space and site constraints
- Aesthetic preferences
- Conservation or planning restrictions
- Level of disruption
- Installation costs

### External insulation

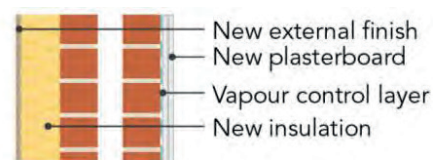
External wall insulation is effective, preserving internal space and allowing residents to remain during installation. Key points:

- Thermal performance – creates a strong thermal envelope.
- Wall type – suitable for solid or cavity walls.
- Appearance – alters the look; roof eaves and window sills may need adjustment.
- Consent - planning permission may be needed if appearance changes.
- Finishes – options include render, brick slips, pebbledash, or cladding.
- Services – rainwater goods, pipes, lights, and cables must be refitted on the insulation.

Internal wall insulation (IWI) can be effective when external options are limited. Considerations for internal insulation include:

- Vapour open materials – use natural materials like wood fibre or hemp lime insulation to reduce condensation risk. Rigid, fossil fuel based materials are vapour closed and can trap moisture, leading to damp problems.
- Wall type – generally applied to solid walls
- Thickness – don't apply too much, ideally less than 80mm, because condensation risk increases with insulation thickness.
- Services – where possible these should be removed and relocated on the warm side of the insulation.

*Externally insulated brick cavity wall*



*Internally insulated stone wall*



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