

Solid Wall Insulation

An Introductory Guide for Householders
in Suffolk



Are you considering installing Solid Wall Insulation to your home? If so, this leaflet will provide you with an overview of key considerations as well as other options that exist for reducing energy demand and fuel bills, so you can work out the best option for your home.

What is Solid Wall Insulation?

Houses built before 1920 and some in later years typically have solid external walls with no cavity. Many of these will be of 'traditional construction', i.e. made of permeable materials (including lime mortar) and not incorporating barriers to external moisture, so that moisture is absorbed and readily evaporated – these properties are often referred to as being able to 'breathe'. Later forms of solid wall construction incorporate damp-proof membranes and use impermeable Portland cement mortars, and can be considered 'non-traditional'.

Insulation can be applied to either the external or internal face of the wall. This can often be the single biggest home improvement to reduce heat loss, and result in savings of up to 25% on fuel bills and your household carbon footprint. It may also reduce condensation on the inside face of the wall and can reduce draughts by covering up cracks in the wall.

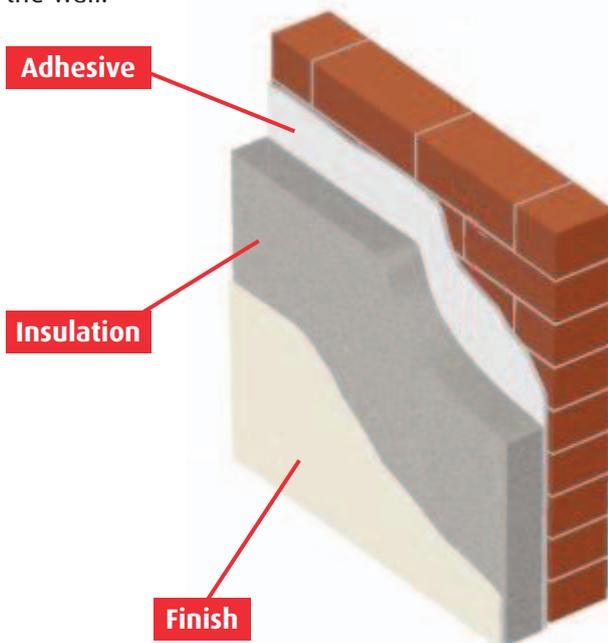


Diagram showing one possible method of External Wall Insulation

Insulating solid walls is not a simple measure however, and should be approached with care if your property is of traditional construction, to ensure that its breathing performance is maintained. Further detail on suitability of Solid Wall Insulation can be found in the following pages.

Whether insulating internally or externally there are a variety of insulation materials, finishes and fixings available. The method should be carefully selected based on the characteristics of the property.

Is Solid Wall Insulation suitable for my property?

The suitability of Solid Wall Insulation will depend on its age and construction, its appearance and the character of the surrounding area.

Moisture Risks

Any wall insulation will alter the performance of a solid wall. It can help improve weather-proofing. However, in some cases it can increase existing moisture-related problems or create new ones, especially if applied internally. It is strongly recommended that insulation is not applied to damp walls. Adding vapour barriers and materials that are highly resistant to the passage of water vapour are not normally appropriate for older, traditionally constructed buildings that have been designed to 'breathe' as they will tend to trap moisture and can increase the risk of decay to the fabric. In some cases the technical risks of adding insulation will be too great and alternative ways of providing a more cost-effective long term solution to improving energy efficiency may be more

appropriate. Your installer should be able to perform a dew point calculation to assess the condensation risk and make recommendations on breathable materials and finishes.

Detailing

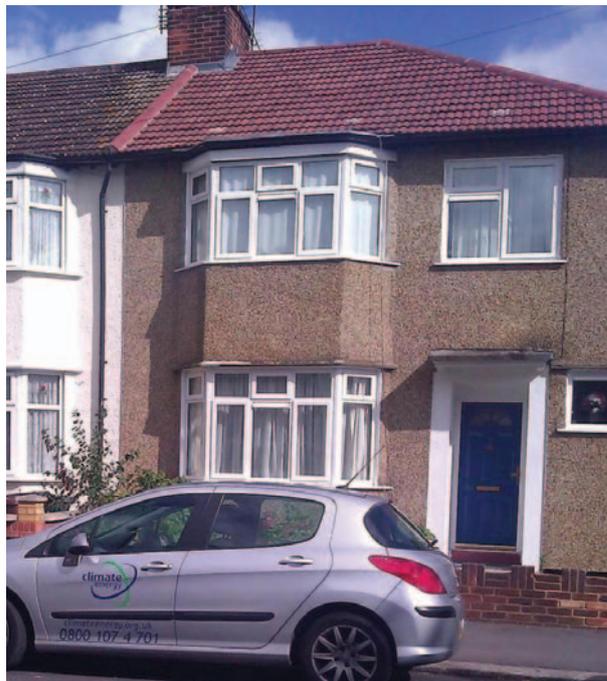
External Wall Insulation will change the appearance of your property: the windows will appear deeper and the roof overhang will be decreased. It may be possible to extend the roof and replace the windows to maintain the previous proportions but this will add to the cost. In addition to this, external details such as downpipes and window and door reveals will most likely need to be replaced. Decorative details on the wall such as cornices will be covered over and although it may be possible to replace some details, unique architectural features will be difficult and expensive to replicate.

Adding Internal Insulation will reduce the size of the rooms and decorative features such as plaster cornices, skirting boards and door architraves will need to be replaced.

Suitability

For the reasons listed above, Solid Wall Insulation is likely to be most suitable for 'non-traditional' dwellings – i.e. brick dwellings constructed with impermeable cement-based mortars and incorporating a damp-proof course. These are less likely to pose moisture-related problems. Such properties are increasingly common from the early part of the 20th Century, and where there is little external detailing the process of installing External Wall Insulation will be simpler. In these cases where the walls require upgrading, installing External Wall Insulation may have a dual benefit by improving both thermal insulation and weatherproofing of the wall.

The relatively simple detailing and impermeable construction of the property (right) meant that it was suitable for External Wall Insulation. It is likely that planning permission was required as the external appearance of the property has been changed.



Before External Wall Insulation



After External Wall Insulation

If your house is **semi-detached** or within a **terrace**, the visual impact of External Wall Insulation will be accentuated and it would be a good idea to speak to your neighbours to see whether they would be interested in insulating at the same time to save costs and help maintain the appearance of the pair or row of houses as a whole.

If you live in a **flat**, the whole block will need to be insulated at the same time. If this is not possible, Internal Insulation might be a better option.

If you live in a **listed building** Solid Wall Insulation will rarely if ever be appropriate.

The changes to character and appearance from External Wall Insulation are also unlikely to be acceptable if your house is in a **conservation area**, especially if the changes would be readily visible (i.e. on a front or side elevation). Planning requirements are discussed in further detail later in this guidance.

For all **traditionally constructed ('breathable') buildings**, you should proceed with caution and contact an independent surveyor or your local authority conservation officer for further advice.

Further detail on insulating solid walls can be found in the Suffolk County Council Technical Guidance Note and the English Heritage website provides further information that is particularly relevant to traditionally constructed buildings. Links to both of these are listed in the 'Further Information' section.

Alternatives to Solid Wall Insulation

Insulating solid walls can improve energy efficiency considerably. However there are many other relatively straightforward, low cost and low impact measures that you may wish to consider first, particularly if your property is a traditional construction. Such measures include: draught proofing, loft insulation, suspended floor insulation, energy efficient boilers, renewable energy and heating controls. The English Heritage guidance 'Energy Efficiency in Historic Buildings' provides useful guidance on the order in which measures should be carried out in historic buildings (see 'Further Information').

The table below shows other measures which can be considered.

Insulation	Heating	Hot water and electricity
Loft insulation	Efficient boilers	Solar PV
Floor insulation	Heating controls	Solar thermal
Insulation to hot water systems	Heat recovery systems	Water efficient taps and showers
Flat roof insulation	Ground/Air source heat pumps	Light fittings and controls
Efficient glazing and doors	Biomass boilers	
Draught proofing	Micro CHP (Combined Heat and Power)	

How much will Solid Wall Insulation cost and is funding available?

External Wall Insulation is an expensive measure (approximately £6,500 – £13,000 per dwelling). Internal Insulation is generally cheaper (approximately £5,500 to £8,500) but funding is available in both cases via the Green Deal and/or the Energy Company Obligation (ECO).

The Green Deal is a government initiative designed to improve the energy efficiency of both domestic and commercial property throughout the UK. If you choose to take out a finance package through a Green Deal Plan, you can make energy saving improvements to your home without having to pay all the costs upfront.

The Green Deal finance is a loan, which remains with the property and is repaid via instalments on your fuel bills. The scheme is based on a principle called the 'Golden Rule', requiring that predicted savings on fuel bills resulting from the energy efficiency measures installed must be able to cover the cost of those energy efficiency measures over a maximum period of 25 years.



The Energy Companies Obligation (ECO) is a grant provided by energy suppliers. As a grant, this will not need to be paid back. All solid wall properties in Suffolk will be eligible for ECO funding for a proportion of the works. This can be integrated with Green Deal finance, to reduce the payback period and minimise the cost you would need to pay upfront.

In some cases ECO funding may be available for 100% of the works. Other energy efficiency measures may also be eligible for ECO funding.

Further detail on the Green Deal and ECO including guidance on how to obtain funding can be found on the websites listed in the 'Further Information' section of this document.

Will Solid Wall Insulation require planning permission?

Planning permission for **External Wall Insulation** will always be required in the following cases:

- Listed buildings (See the link in 'Further Information' to find out whether your property is listed)
- Houses in conservation areas, Areas of Outstanding Natural Beauty (AONBs) or the Broads
- Blocks of flats
- Houses where the proposed cladding material will not be of 'similar appearance' to the existing property

Further guidance on gaining planning permission can be found in the Suffolk County Council Solid Wall Insulation Technical Guidance Note (see 'Further Information'), and all proposals should be discussed with the Local Planning Authority prior to making an application.

Listed Building Consent will also be required for listed properties. This is administered by your local authority and application forms can be downloaded from your local authority's website.

If your house is not listed, nor in a conservation area, AONB or the Broads, you should contact your Local Planning Authority to find out whether the work would come under the definition of 'similar appearance'. If it does, this will be classed as 'permitted development' and planning permission will not be required.

The table overleaf summarises examples of finishing materials that may be considered 'similar appearance' but this will vary depending on the nature of the construction and the characteristics of the surrounding area so you should contact your local planning authority to be sure.

Existing house	Finishing material	Permitted Development?
Brick	Brick slips	Usually – contact Local Planning Authority for confirmation
Render	Same colour render	Usually – contact Local Planning Authority for confirmation
Render	Different colour render	Not Usually – contact Local Planning Authority for confirmation
Brick	Render	Not Usually – contact Local Planning Authority for confirmation

Planning permission is not required for **Internal Insulation**, but if you live in a listed building, you will need to apply for Listed Building Consent (see details above).

Applications for planning permission can be made online via the planning portal. (See 'Further Information' for the website address).

As a block of flats, the application of External Wall Insulation to the building below required planning permission.



External Wall Insulation is applied to the façade of the building



The insulation is rendered over and window boxes are replaced

What are the Building Control Requirements?

Building Regulations

Any significant renovation or replacement of building fabric is likely to trigger a need for approval under the Building Regulations (Part L1B). This sets specific requirements for thermal performance¹. In practice, this will mean approximately 50-150mm insulation will need to be added.

Exemption from the Building Regulations

Exceptions are made for several categories of historic buildings, including listed buildings, buildings in conservation areas and AONB's, buildings on local lists and buildings of traditional construction. In such cases energy efficiency should be improved as much as possible, but not beyond

a point where there is a risk of unacceptable harm to the building's character, appearance or fabric. You are advised to speak to your local authority Building Control department for further advice.

The Building Regulations (Part L1B) can be downloaded in full from the website listed in the 'Further Information' section.

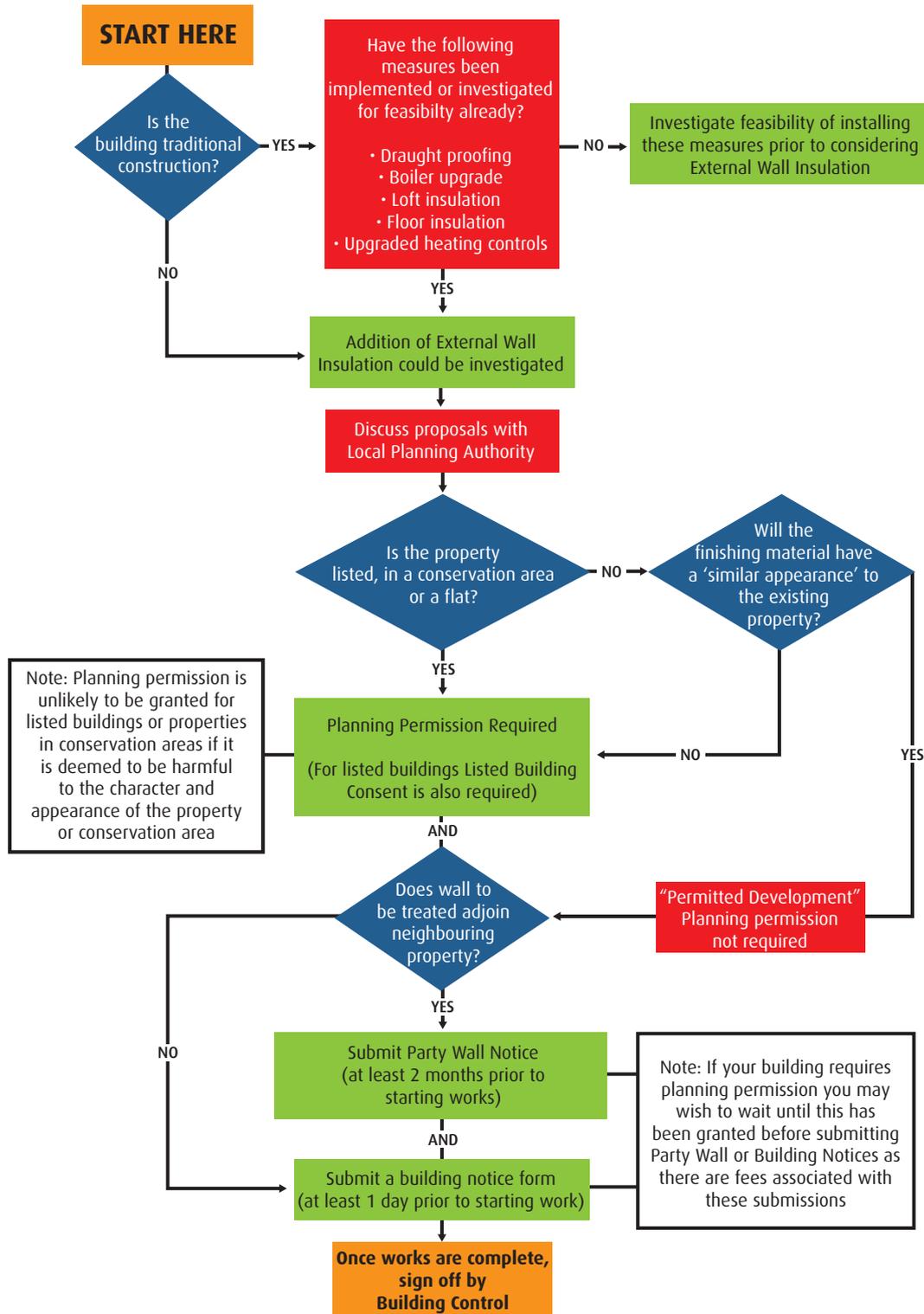
Building Control

All Solid Wall Insulation is notifiable with Building Control and a Building Notice Form will need to be submitted prior to work commencing. If you want to add External Wall Insulation over a party wall (the wall that separates two properties) a Party Wall Agreement will be required and a Party Wall Notice should be submitted at least 2 months prior to starting work. Full information on the Building Control process and the associated fees can be found on the Borough and District Council websites which are listed at the end of this leaflet.

1. Walls undergoing renovation must have an area-weighted U-value of no more than 0.30 W/m²K (The U-value is a measure of the flow of heat through a thermal element. The lower the U-value the better and insulator it is).

The Planning and Building Control Process for Householders

The flow chart below can be used to help work out the planning and building control process relevant to your property. In all cases it is recommended that you discuss proposals with your Local Planning Authority.



Further Information

English Heritage Guide to Energy Efficiency:

www.english-heritage.org.uk/publications/energy-efficiency-historic-buildings-ptl/eehb-partl.pdf

English Heritage guide to insulating solid walls in historic properties:

www.english-heritage.org.uk/publications/eehb-insulating-solid-walls/eehb-insulating-solid-walls.pdf

Find out whether your property is listed at ‘The National Heritage List for England’:

www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england/

Green Deal & ECO:

www.gov.uk/green-deal-energy-saving-measures/how-the-green-deal-works

www.energysavingtrust.org.uk/Take-action/Find-a-grant/Green-Deal-and-ECO

Suffolk County Council Technical Guidance Note:

<http://greensuffolk.onesuffolk.net/assets/Greenest-County/SGBN/Technical-Reference-Guide.pdf>

Submit planning applications online via the Planning Portal:

www.planningportal.gov.uk

Building Regulations Part L1B:

www.planningportal.gov.uk/uploads/br/BR_PDF_AD11B_2010.pdf

Contact details for the Borough and District Councils in Suffolk

Babergh District Council

Website: www.babergh.gov.uk
Planning: www.babergh.gov.uk/planning-and-building/
Email: info@babergh.gov.uk
Telephone: 01473 822801

Forest Heath District Council

Website: www.forest-heath.gov.uk
Try clicking on the 'My Neighbourhood' box to find key information about your property.
Planning: www.forest-heath.gov.uk/info/200074/planning
Email: info@forest-heath.gov.uk
Telephone: 01638 719000

Ipswich Borough Council

Website: www.ipswich.gov.uk
Planning: www.ipswich.gov.uk/site/scripts/documents.php?categoryID=200074
Email: enquiry@ipswich.gov.uk
Telephone: 01473 432000

Mid Suffolk District Council

Website: www.midsuffolk.gov.uk
Planning: www.midsuffolk.gov.uk/planning-and-building/
Email: customer.service@csduk.com
Telephone: 0845 606 6067

St Edmundsbury Borough Council

Website: www.stedmundsbury.gov.uk
Planning: www.stedmundsbury.gov.uk/planning-and-building-control/
Email: stedmundsbury@stedsbc.gov.uk
Telephone: 01284 763233

Suffolk Coastal District Council

Website: www.suffolkcoastal.gov.uk
Planning: www.suffolkcoastal.gov.uk/yourdistrict/planning/
Email: scdc@suffolkcoastal.gov.uk
Telephone: 01394 383789

Waveney District Council

Website: www.waveney.gov.uk
Planning: www.waveney.gov.uk/site/scripts/documents.php?categoryID=200074
Email: info@waveney.gov.uk
Telephone: 01502 562111

About this Guidance

This guidance has been produced by Climate Consulting (part of the Climate Energy Group) as part of the Green Deal Pioneer Places project on behalf of the Suffolk Climate Change Partnership and funded through the Climate Change Skills Fund, managed by Sustainability East on behalf of the East of England Local Government Association.

The guidance has been written in consultation with Suffolk's Local Planning Authorities' Planners, Conservation Officers, Historic Buildings Officers, Building Control Officers, Environmental Officers, Scientific Officers, Aran Services and English Heritage. It therefore represents a balanced view of the approach taken by Suffolk Local Planning Authorities. However, householders should note that all projects will be judged on a case by case basis.

About the main partners

Suffolk Climate Change Partnership

The Suffolk Climate Change Partnership, part of Creating the Greenest County, includes all of the county's local authorities, as well as a number of other organisations such as the Environment Agency, Groundwork Suffolk and Sustainability East. Members have a shared interest in supporting Suffolk's communities, businesses and residents to reduce carbon emissions, realise the economic benefits of reducing energy consumption and adapt in advance to the future impacts of climate change.

Climate Energy

The Climate Energy Group is the UK's leading independent provider of carbon reduction and energy efficiency services. Working with local authorities, registered providers, businesses and communities, Climate Energy provide a range of bespoke retrofit and new build services that help their clients to reduce the environmental impact of residential and commercial buildings. Extensive knowledge and experience, coupled with long-established funding relationships, enable Climate Energy to effectively plan manage and fund energy efficiency and carbon reduction schemes across the UK.

Climate Consulting

As part of the Climate Energy Group, Climate Consulting provides energy and sustainability consulting services for the public and social sector; specialising in the built environment. Climate Consulting offers sustainable technology advice from assessment through to planning, development, and implementation stages. The multi-disciplinary team of consultants comprise accredited energy assessors, technology experts, planning specialists and experienced project managers.



CLIMATECONSULTING



East of England
Local Government Association





If you need help to understand this information in another language please call **08456 066 067**.

Se precisar de ajuda para ler estas informações em outra língua, por favor telefone para o número abaixo.

Portuguese

بەم زانیاریەشێنی ئە ب ت گەهێتی دە یارمەر پ ویستیت بەگەئە
بەگەوهی خوارەم ژمارەندی بەیوه بەزمان کسێ تر تگایە

Kurdish

Jeżeli potrzebujesz pomocy w zrozumieniu tych informacji w swoim języku zadzwoń na podany poniżej numer.

Polish

如果你需要其他語言來幫助你了解這些資訊，請撥以下電話。

Chinese

এই লেখাটি যদি অন্য ভাষাতে বুঝতে চান তাহলে নিচের নম্বরে ফোন করুন

Bengali

اگر شما نیاز دارید که این اطلاعات را به زبان دیگری دریافت کنید لطفاً به شماره زیر تلفن کنید.

Farsi

If you would like this information in another format, including audio or large print, please call **08456 066 067**.



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