

PAN 08

Householder guidance on external wall insulation

December 2016

Brighton & Hove City Council's Local Development Framework



Planning Advice Note

Householder guidance on external wall insulation

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Summary

Why is external wall insulation relevant for Brighton & Hove?

It is estimated that a third of the heat used to heat your home is lost through the walls. Applying external wall insulation can reduce heat loss, effectively wrapping the whole house in an insulating layer. By reducing heat loss, less energy is needed to keep your home warm. This can reduce energy bills and carbon emissions, and protect future householders from fuel poverty.

The Brighton & Hove Renewable and Sustainable Energy Study (2012) found that to achieve the city's carbon reduction target of 80% reduction by 2050, energy efficiency improvements need to be made to existing houses.

Brighton & Hove has a very high proportion of older houses built pre-1919. These are usually built with solid rather than cavity walls, and they are found to lose more heat and therefore have higher energy bills and carbon emissions. The Energy Study found that insulating the walls of the 44,500 older, solid wall homes in the city created the greatest opportunity to reduce domestic carbon emissions compared to all other energy efficiency measures.

This guidance aims to help householders approach external wall insulation projects, setting out information on planning and other issues that need to be considered.

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With thanks to the professionals and stakeholders who input into this document.

Cover Photo: *BBM Sustainable Design Ltd*

Contents

i	Summary
1	Introduction
1	What is external wall insulation?
2	Why install external wall insulation?
4	What licences, agreements and permissions are needed?
4	Party wall agreement
4	Oversail licence
5	Is planning permission needed for external wall insulation?
5	Certificate of Lawful Development
6	Conservation Areas
7	Hybrid wall insulation
8	Working with existing building features
9	Problems requiring remediation prior to installing EWI
10	Breathable walls and breathable materials
11	Contacts and further information
12	External Wall Insulation Checklist

Introduction

This planning advice note offers guidance on external wall insulation for householders who want to insulate the external walls of their house. The guidance refers to external wall insulation only, as this may require planning permission, unlike other types such as internal wall insulation or cavity wall insulation.

This Guidance offers basic information for householders on external wall insulation:

- What is external wall insulation
- Why install external wall insulation
- What licences, agreements and permissions are needed
- Examples of building features that need to be considered prior to works
- What technical and practical issues need to be addressed
- Where can further information be found

What is external wall insulation (EWI)?

EWI is typically where solid boards of insulation material 50 – 120mm thick are applied to the external wall of the building and then finished with rendering or cladding. EWI can be applied to either solid or cavity walls.

To deliver energy and cost savings, EWI should be combined with other energy efficiency measures such as improved glazing, floor insulation, roof insulation and efficient heating.

An example of external wall insulation using ‘breathable’ materials (see page 10)

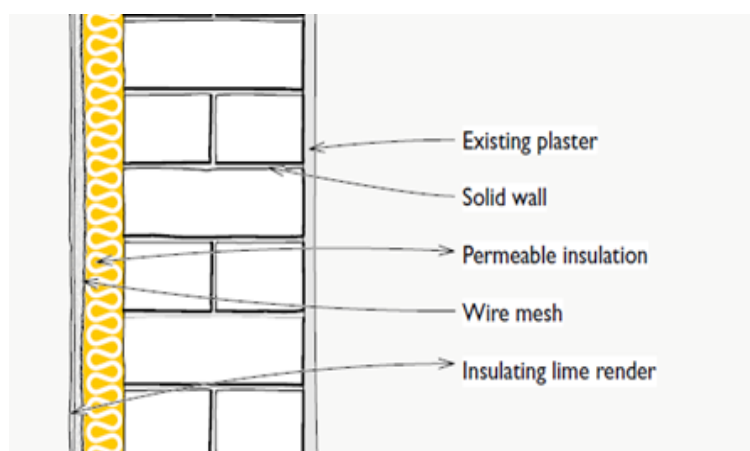


Image: Energy Saving Trust

Householder guidance on external wall insulation

December 2016

Why install external wall insulation?

Space heating accounts for 64% of energy use in homes. Reduction in space heating can be achieved by reducing heat losses from the building, this can be achieved by improvements to the building fabric. The external walls are the largest area of heat loss from a building and therefore offer the most significant opportunity for reduction in energy demand.

It is estimated that EWI can reduce heat loss by 35%, equivalent to saving £475 a year on energy bills in the average house. Effectiveness depends on thickness and type of insulation used. EWI is more effective than internal wall insulation as it covers the building more consistently. It can wrap an insulating layer around the whole house. It also has the benefit of maintaining the thermal mass of the indoor walls which can help keep rooms cool in summer.

Scaling up to include neighbouring houses or whole streets of terraced houses help with effectiveness and can maintain the uniformity of a terrace.

EWI offers the following advantages, it:

- can be applied without disruption to the household (unlike installing internal wall insulation)
- does not reduce the floor area of your home (whereas internal wall insulation does)
- renews the appearance of outer walls
- can improve weatherproofing and sound resistance
- can cover cracks and gaps, reducing draughts
- can reduce condensation on internal walls where there is good ventilation (but will not solve rising or penetration damp)
- is best installed at the same time as external refurbishment work to reduce cost

However, it

- may need planning permission - check with the planning department
- requires good access to the outer walls
- is not recommended if the outer walls are structurally unsound or damp and have not been repaired
- is not appropriate where the building façade has valued architectural detailing
- may be unlikely to gain planning permission in Conservation Areas under certain circumstances, see page 5.

External Wall Insulation reduces heat loss from external walls



Image: Paul Early

This image is of three houses in a terrace. The house in the middle has had external wall insulation installed. The other houses do not.

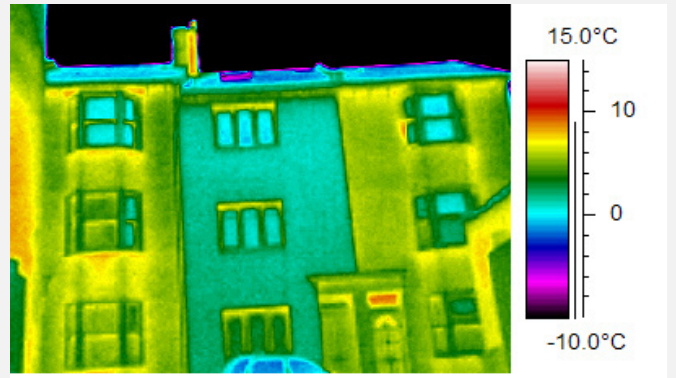


Image: ArchAngels Architects

This thermal image is taken in winter whilst central heating is running. It shows that the house with external wall insulation in the middle has a lower surface temperature. This is because there is less heat escaping through the wall.

The houses on either side have much higher external temperatures: about 5°C higher. This is because more heat from their central heating system is escaping and being lost through the walls of the houses without external wall insulation.

What licences, agreements and permissions are needed?

When your house is situated in a terrace, you will need to obtain a **party wall agreement** with neighbours.

When your house abuts the public highway and EWI will extend over the highway, an **Oversail Licence** must be obtained from the Highways Authority.

Party Wall Agreement

You must tell your neighbours if you want to carry out any building work near or on your shared property boundary, or 'party wall'.

Before carrying out any works on the party wall, you must obtain their written consent. Also, when building works begin you must avoid causing unnecessary inconvenience and protect your neighbour's property from damage.

Information and template agreements are available on the government website: www.gov.uk

Oversail Licence

An 'oversail licence' is a licence giving permission for your home to project over the public highway. This is only an issue for EWI when the house butts up directly to the public highway (including the pavement) and the insulation will project over it.

The oversail licence can be sought from the Highways Authority (based in the council) for a small fee. A highways officer will make a site visit before and after works to ensure the public highway is still fully accessible.

Further information is available from the Highways officers, telephone 01273 293366.

Email: Permit.admin@brighton-hove.gov.uk

Image: Low Carbon Trust



Is planning permission needed for external wall insulation?

Permitted development rights change frequently. It is therefore recommended that for information about planning permission for EWI, applicants check on the Planning Portal: www.planningportal.co.uk/permission, the council website or with the planning authority via planning.applications@brighton-hove.gov.uk. The Permitted development advice in this document is correct at time of publication, December 2016.

Planning permission for EWI must always be sought in the following circumstances:

- For Flats, maisonettes, divided houses (even those with a single owner)
- Any non-residential buildings
- In Conservation Areas or the National Park¹
- For Listed Buildings or those in the curtilage of a Listed Building²
- Where materials used for cladding are not of a similar appearance to those used in the construction of the house

When is EWI 'permitted development'

In some circumstances EWI may be permitted development. 'Permitted development' is where development does not need to apply for planning permission.

Excluding the circumstances above, EWI may be permitted development when the cladding materials used for EWI are of a similar appearance to those used in the construction of the house. The government's technical guidance on this is as follows:

'the materials used in any exterior work ... shall be of a similar appearance to those used in the construction of the exterior of the existing dwelling house'.

This is to minimise visual impact and ensure a sympathetic appearance. The government has indicated that it regards the installation of external wall insulation as an improvement rather than an enlargement or extension to the dwelling house. However, where the materials are different, permission will be required.

Certificate of Lawful Development

In instances where an applicant would like peace of mind that their works are permitted development, an application can be made to the planning authority to obtain a Certificate of Lawful Development as evidence the development is lawful.

1 For any applications within the National Park, the South Downs National Park Planning Authority and not Brighton & Hove Planning Authority has responsibility www.southdowns.gov.uk/planning/

2 Listed Building Consent is required for changes to Listed Buildings see www.brighton-hove.gov.uk/heritage

Householder guidance on external wall insulation

December 2016

Conservation Areas

If you live in a Conservation Area or the National Park³, you will need to apply for planning permission for EWI. EWI is unlikely to be acceptable on front walls in conservation areas because of the visual impact on the façade and streetscape.

Planning Advice Note 09: Energy efficiency for historic houses in Conservation Areas provides helpful information when considering wall insulation in these areas.

In Conservation Areas, planning permission is required for external wall insulation.

- On front walls in Conservation Areas EWI is unlikely to be acceptable because of the impact on the façade and streetscape.
- EWI may be acceptable on side and rear walls of houses in Conservation Areas not visible from the highway or public open space, depending on the design and material of the building and subject to detailing. In this case a hybrid wall insulation system can be considered.
- Planning Permission is unlikely to be granted for EWI even on rear elevations where there is architectural detailing such as corbels under eaves and windows, or decorative line work across the front of the building and other mouldings. Stone or good quality original fair-faced brickwork, flintwork and mathematical tiling must not be rendered over.

³ For any applications within the National Park, the South Downs National Park Planning Authority and not Brighton & Hove Planning Authority has responsibility www.southdowns.gov.uk/planning/

What is 'hybrid wall insulation'?

Hybrid wall insulation is where one house has a combination of external and internal wall insulation.



Images: Low Carbon Trust

Hybrid wall insulation

'Hybrid' wall insulation is where internal wall insulation is applied on one or more walls whilst external wall insulation is applied to others in the same house.

Most commonly internal wall insulation is applied behind the front wall but insulation is applied externally at the side and/or rear.

This preserves the appearance of the building on its street facing façade whilst enabling a high standard of insulation to be applied continuously to all the external walls.

















This approach is particularly useful in Conservation Areas or areas where the front elevation is part of a uniform terrace or has architectural features that need preserving.

Working with existing building features

Building facades are never simple. All the features and elements on the wall must be carefully considered when designing EWI.

When you commission contractors to install EWI, you can discuss with them how they will approach working round or replacing wall features. A checklist is provided at the end of this document for you to use during these discussions

Some of the Building Features to consider when applying EWI

1. Recessed doors	2. Party wall boundaries	3. Roof eaves	4. Window sills
			
5. Bay windows	6. Pavement and wall junctions	7. Architectural features	8. Rainwater goods and downpipes
			
9. Gas meters and pipes	10. Overhead cables and Telecommunications	11. Flues and vents	12. External lighting
			
13. Water meters	14. Basements	15. Air bricks	16. Bootscrepers
			

Images: BBM Sustainable Design (1,9,10,11,13,14,15,16); Jim Miller Design (3,4,9); Low Carbon Trust (2,5,6,7).

Householder guidance on external wall insulation

December 2016

Problems requiring remediation prior to installing EWI

Insulation should not be installed on walls where there are currently problems, or the problems may be exacerbated. If there is damp in the wall, it is important to obtain professional advice on the cause of the damp and how it can be remediated. All problems should be addressed prior to installing EWI. The issues listed below are included in the checklist at the end of this document so you can discuss these with your contractor.

Problems requiring remediation prior to EWI:

- Damp walls
- Rising damp
- Faults in the neighbour's or party wall
- Unstable walls
- Cracked render
- Blown walls
- Mortar between bricks crumbling
- No damp proof course or faults in existing damp proof course

Some potential solutions:

- Walls should always be in good repair or repaired and any faults in the damp proof course should first be remediated and dried out
- Additional ventilation could be fitted to help extract excess internal moisture (from cooking, bathing, clothes drying), to prevent this entering the wall
- Establish moisture content of the wall prior to going ahead with EWI using monitoring equipment
- Any existing blown render should be removed and replaced
- Additional ventilation should be installed at the same time as EWI

Wall construction and material

Whether your house has solid or cavity wall construction will be a consideration when designing EWI for your house. Similarly, the construction material should be considered.

Many houses in Brighton were built using 'bungaroosh'. Bungaroosh is a composite building material used almost exclusively in Brighton between the 18th and 19th centuries to build external walls. It consists of whole or broken bricks, cobblestones, pebbles, sand, wood, and hydraulic lime. Bungaroosh walls are sensitive to changes in levels of moisture therefore design of EWI must take this into consideration.

Breathable walls and breathable materials

Older building stock in Brighton and Hove is generally constructed of breathable, moisture permeable materials like brick. These materials allow moisture within the building fabric to evaporate freely away.

Older buildings are mainly solid walled and were traditionally rendered externally and plastered internally with products such as lime to allow the moisture flow within the wall in response to internal and external conditions. The overall effect of this is to keep the moisture level within the building within tolerable levels that will not harm the structural integrity of building fabric.

When adding an insulating layer to a wall it is important to consider whether the wall needs to maintain its ability for moisture to pass through it (to 'breathe'). If walls are kept wet and moisture cannot evaporate away, they may suffer structural damage, and they will conduct and lose heat. Also, wet walls can encourage mould growth which can give rise to health problems.

Some insulating materials are 'breathable' ('vapour permeable') and some are not.



Breathable materials

Vapour permeable insulation materials include:

- wood fibre or cork, should be used with a lime based insulating render; and
- permeable paints, e.g. clay based

Image: example of breathable woodfibre insulation with lime render.

Non breathable materials

These do not allow moisture to pass through them and can lead to condensation in the layers of walls which were designed to be breathable. Consequently they may not be suitable for traditional buildings unless other mitigation measures are applied. They include:

- cement based products
- phenolic foam based insulation boards
- expanded polystyrene
- polyurethane insulation

Further information

Brighton & Hove City Council Planning Policy

Brighton & Hove City Plan Part One

www.brighton-hove.gov.uk/planning

Supplementary Planning Document 09 -
Architectural Features

www.brighton-hove.gov.uk/planning

Planning Advice Note 09 - Householder guidance on
energy efficiency for historic houses in Conservation
Areas

www.brighton-hove.gov.uk/planning

National Planning information

Planning Portal Website

www.planningportal.gov.uk/permission

South Downs National Park Planning Authority

SDNP Website

www.southdowns.gov.uk/planning/

Guarantees

SWIGA. Solid Wall Insulation Guarantee Agency.
Covers for materials, design or workmanship.

www.swiga.co.uk

Kinnell ECO Guarantee. Guarantees most natural
building technologies

www.kinnelleco.co.uk

British Board of Agrément (BBA). Provides
certification of products, materials and holds lists of
approved installers of EWI Systems

www.bbacerts.co.uk

Funding

Energy Saving Trust

www.energysavingtrust.org.uk

Department of Business, Energy & Industrial
Strategy

www.gov.uk

Brighton & Hove Energy Services Co-operative

www.bhesco.co.uk

Your Energy Sussex

www.yourenergysussex.org.uk

Other helpful information and guidance

Energy Saving Trust

www.energysavingtrust.org.uk

Historic England

www.historicengland.org.uk

Historic England

www.historicengland.org.uk
[Energy Efficiency and Historic Build-
ings: Insulating solid walls](http://www.historicengland.org.uk/energy-efficiency-and-historic-buildings-insulating-solid-walls)

A Bristolians Guide to Solid Wall Insulation

<https://warmupbristol.co.uk/>

See EWI examples during Brighton & Hove Eco
Open House events

www.ecoopenhouses.org

Courses on sustainable building

www.brightonpermaculture.co.uk and
www.lowcarbon.co.uk

BBM Sustainable Design Ltd: 'Insulating a street: a
Brighton case study'

www.brightonandhove1010.org/ewi

Householder guidance on external wall insulation

December 2016

External Wall Insulation Householder Checklist



This checklist can be used when discussing external wall insulation with your installer or designer.

Agreements, Licences, Planning, Building Control

Has the planning authority been consulted on whether planning permission is needed?	
Has the Building Control Body been contacted and will the installer deal with Building Control Compliance? Is a Party Wall Agreement needed?	
Is an Oversail Licence needed?	

Guarantees and Certification

Is the work covered by any of the following certification schemes?

SWIGA guarantee (works)	
BBA certified (products, materials)	
Kinnell ECO Guarantee (natural materials)	

Wall condition. How will any existing issues be addressed?

Damp walls	
Rising damp	
Unstable walls	
Cracked render	
Faults in neighbouring or party walls	
Blown walls	
Unusual construction material e.g. Bungaroush	

Householder guidance on external wall insulation

December 2016

External Wall Insulation Householder Checklist



This checklist can be used when discussing external wall insulation design with your installer or designer.

Insulation systems. Which will be installed?

Breathable	
Non breathable	

Building Features:

What solutions will be adopted where needed for the following?

Doors	Recessed doorways	
	Porches	
Roof details	Rainwater goods	
	Roof Eaves	
Junctions	Party wall boundaries	
	Pavement and wall junctions	
	Basements	
Architectural features	E.g. corbels	
Windows	Bay windows	
	Recessed windows	
	Blind windows	
	Window sills	
Ventilation	Air bricks	
	Flues and vents	
Utilities	Gas meters and pipes	
	Overhead cables	
	Telecommunications	
	Water meters	
Other	Bootscrapers	
	External lighting	
	Other features?	

**For further information contact:
Brighton & Hove City Council**

Planning Duty Service

Telephone: 01273 292222

Email: planning.applications@brighton-hove.gov.uk

Website: www.brighton-hove.gov.uk/planning

Building Control Body/Building Regulations

Telephone: 01273 292050

Email: building.control@brighton-hove.gov.uk

Website: www.brighton-hove.gov.uk/buildingcontrol

Highways Authority

Telephone: 01273 293366

Email: permit.admin@brighton-hove.gov.uk

Website: www.brighton-hove.gov.uk/

Heritage Telephone: 01273 292222

Email: conservation@brighton-hove.gov.uk

Website: www.brighton-hove.gov.uk/heritage