



Home Condition Survey

Helping you make the
right decision about
your new home

75, May Street
CARDIFF
CF24 4EY



Report Reference No: 6600602

Produced for: Jones

Date: 04-Dec-2017

TRIAL REPORT - NOT A REAL REPORT





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Introduction

When you buy a home it is sensible to have an independent report on the condition of the property.

This Home Condition Survey is produced by a surveyor who is a member of the SAVA HCS Scheme. The surveyor provides an objective opinion about the condition of the property at the time of inspection.

The Home Condition Survey is in a standard format and is based on the following terms which set out what you should expect of both the surveyor and the Home Condition Survey. Neither you nor the surveyor can amend these terms for the survey to be covered by SAVA. The surveyor may provide you with other services, but these will not be covered by these terms nor by SAVA and so must be covered by a separate contract.

SAVA exists to ensure a fair and professional service to the consumer. To be a member of SAVA and produce Home Condition Surveys, the surveyor has to:

- *Pass an assessment of skills, in line with National Occupational Standards*
- *Hold the Diploma in Home Inspection or equivalent*
- *Have insurance that provides cover if found negligent*
- *Follow the inspection standards and code of conduct set by SAVA*
- *Lodge all reports with the central SAVA register for regular monitoring of competence*
- *Have a complaints procedure which includes an escalation route to SAVA*
- *Participate in a Criminal Records check*

SAVA will revoke membership if a surveyor fails to maintain the expected professional or ethical standards.

What this report tells you

The aim of the report is to tell you about any defects and to help you make an informed decision on whether to go ahead and buy the property. This report tells you:

- About the construction and condition of the home on the date it was inspected
- Whether more enquiries or investigations are needed before you buy the property
- The Reinstatement Cost for insurance purposes

A Building Reinstatement Cost is the estimated cost of completely rebuilding the property based on information from the Building Cost Information Service (BCIS), which is approved by the Association of British Insurers. It is based on building and other related costs but does not include the value of the land the home is built on.

It is not a valuation of the property.

The report applies '**condition ratings**' to the major parts of the main building (it does not give condition ratings to outbuildings or landscaping).

The property is broken down into separate parts or elements and each element is given a condition rating 1, 2, 3 or NI (Not inspected).

Condition rating definition

The surveyor gives each part of the structure of the main building a condition rating to make the report easy to follow. The condition ratings are as follows:

Condition Rating 1

No repair is currently needed. Normal maintenance must be carried out.

Condition Rating 2

Repairs or replacements are needed but the surveyor does not consider these to be serious or urgent.

Condition Rating 3

*These are defects which are either serious and/or require urgent repair or replacement or where the surveyor feels that further investigation is required (for instance where he/she has reason to believe repair work is needed but an invasive investigation is required to confirm this). A serious defect is one which could lead to rapid deterioration in the property or one which is likely to cost more than 2.5% of the reinstatement cost to put right. **You may wish to obtain quotes for additional work where a condition rating 3 is given, prior to exchange of contract.***

NI Not Inspected

Not inspected (see "How the inspection is carried out").

X Not Present at Property

This feature is not present at the property.

What this report does not tell you

- This report does not tell you the value of your home or cover matters that will be considered when a valuation is provided, such as the area the home is in or the availability of public transport or facilities
- The report does not give advice on the cost of any repair work or the types of repair which should be used
- Domestic properties are not covered by the Control of Asbestos Regulations 2006, and the surveyor will not carry out an asbestos survey of any part of the building, nor will he/she take samples of suspect materials. However, the common areas of blocks of flats and apartments are covered by the Regulations, and are normally the responsibility of the managing agent or residents' association. The regulations require those responsible for the building to assess the common areas for the presence of asbestos and to establish a plan to manage any asbestos containing materials present. The surveyor will assume that such a plan exists and that those responsible have taken adequate steps to assure the safety of residents. It is the responsibility of the prospective purchaser of the property to ensure that this process has been completed
- If you need advice on subjects that are not covered by the Home Condition Survey, you must arrange for it to be provided separately

What is inspected?

The surveyor undertakes a visual inspection of the inside and outside of the main building and all permanent outbuildings. The surveyor also inspects the parts of the gas, electricity, water and drainage services that can be seen but will not test the services.

What is SAVA

All surveyors who offer the SAVA Home Condition Survey must be members of SAVA.

To join SAVA, the surveyor must demonstrate they hold the Home Inspector Diploma or equivalent; have a valid Criminal Records check and must also pass other stringent background checks to ensure their suitability for this important role.

Once they are members, surveyors are regularly audited, properly insured and their work is subject to a robust consumer redress scheme.

How the Inspection is carried out

When the property is inspected it does not belong to you, the client, but to the seller, so the inspection is visual and non-invasive.

This means that inside the surveyor does not take up carpets, floor coverings or floorboards, move heavy furniture or remove contents of cupboards. Also, the surveyor does not remove secured panels or undo electrical fittings. The surveyor will inspect the roof structure from inside the roof space where it is safe to access and move around the roof space, but will not lift any insulation material or move stored goods or other contents.

The surveyor will check for damp in vulnerable areas using a moisture meter and examine floor surfaces and under floor voids, (but will not move furniture or floor coverings to do so). Sensitivity to noise is very subjective so the surveyor will not comment on sound insulation or noise of any sort.

The surveyor will inspect roofs, chimneys and other outside surfaces from ground level within the boundaries of the property with the aid of binoculars, or from neighbouring public property, or using a ladder where it is safe to do so and the height is no more than 3m above a flat surface.

Where there is any risk of damaging the fabric of the property, the surveyor will limit the inspection accordingly but will note this in the report.

The surveyor will state at the start of sections D, E and F of the report if it was not possible to inspect any parts of the home that are normally reported on. If the surveyor is concerned about these parts, the report will tell you about any further investigations that are needed. The surveyor does not provide quotes on the cost of any work to correct defects or comment on how repairs should be carried out.



Full address and postcode of the property surveyed	75, May Street CARDIFF CF24 4EY	
Surveyor's name	Mr Ashley Halton	
Report reference number	6600602	
Company/organisation name		
Company address and postcode	x, x, MK5 8NA	
Company contact details	Email	ashley.halton@ahsurveying.co.uk
	Telephone	0
Date of inspection	04-Dec-2017	



Summary

Type of property	The property is a mid-terrace house.
Tenure (legal advisor to check)	Freehold
Approximate year when property was built	1890
Weather conditions at the time of inspection	Dry.
The condition of the property when inspected	The property was vacant, partly furnished and habitable.
Is the property subject to special planning restrictions?	No.

Summary of Accommodation

Storey	Living rooms	Bed rooms	Bath or shower	Separate toilet	Kitchen	Utility room(s)	Conser-vatory	Other room(s)	Name(s) of other room(s)
First		3							
Ground	2		1		1	1			
TOTALS	2	3	1	0	1	1	0	0	-
Gross internal floor area in square metres 97m ²									

Reinstatement cost

Reinstatement Cost	£ 265000	<p>Note: This reinstatement cost is the estimated cost of completely rebuilding the property based on information from BCIS, a service which provides building cost information and which is approved by the Association of British Insurers. It represents the sum at which the home should be insured against fire and other risks. It is based on building and other related costs and does not include the value of the land the home is built on. It does not include leisure facilities such as swimming pools and tennis courts. The figure should be reviewed regularly as building costs change. Importantly, it is not a valuation of the property.</p> <p>It is not possible to use BCIS to calculate the reinstatement cost of all homes; for instance if the property is very large, historic, contains special features or is of unusual construction or design. In such cases BCIS has insufficient data to generate a reinstatement cost and you will need to employ a specialist to calculate the reinstatement cost. In such circumstances no cost figure is provided and the report will indicate that a specialist is needed.</p>
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Summary of Condition Ratings

Note: A condition rating 3 does not indicate that you should not buy the property. These are defects which are either serious and/or require urgent repair or replacement or where the surveyor feels that further investigation is required. You may wish to obtain quotes for additional work where a condition rating 3 is given, prior to exchange of contract. Please refer to page 2 for the definitions of condition ratings. (Note: X indicates this feature is not present at the property)

Section of the Report	Part No	Name	Identifier (if more than one)	Rating
D: Outside	D1	Chimneys and flues		3
	D2	Roof coverings		1
	D2	Roof coverings	Roof coverings 2	1
	D3	Rainwater pipes & gutters		1
	D4	Above ground waste & soil pipes		1
	D5	Main walls (including claddings)		1
	D6	Windows		1
	D7	Outside doors (incl. patio doors)		1
	D8	Other external woodwork etc		1
	D9	Outside decoration		1
	D10	Other outside detail		2
	D11	Conservatories		X
D12	Porches		X	
E: Inside	E1	Roof structure		NI
	E2	Ceilings		1
	E3	Inside walls, partitions & plasterwork		1
	E4	Floors		3
	E5	Fireplaces & chimney breasts		2
	E6	Built-in fittings		1
	E7	Inside woodwork		1
	E8	Bathroom fittings		1
	E9	Other issues		X
F: Services	F1	Electricity		3
	F2	Gas		3
	F3	Oil		X
	F4	Water		1
	F5	Heating		3
	F6	Drainage		2

General Description

A short general description of the construction (main walls, roof, floors, windows)

The main walls are constructed in 450mm & 240mm thick approx. solid stone & brickwork, rendered at the rear elevations; the rear extension is thought to be in cavity block measured at 300mm and rendered externally; The roofs are pitched and have been replaced in artificial fibre cement type slates. The extension roof is a flat roof type; internally the ground floors are a mixture of suspended timber and solid flooring.

Summary of mains services	Drainage	A mains drainage system is present.
	Gas	A mains gas supply is connected.
	Electricity	A mains electricity supply is connected.
	Water	A mains water supply is connected.

Renewables	
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Central heating	Central heating is by way of a gas fired hot water and heating combination boiler.
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Boiler	Manufacturer	
	Model Name	Worcester
	Model Qualifier	24i junior
	Model Identity No.	010243
	First manufactured	2005
	Last manufactured	current
	Efficiency	89.1%
	Type	Condensing Combi
	Fuel	Gas
	Mounting	Wall
	Flue	Room-sealed
Pilot	No permanent pilot	

Boiler efficiency, which is normally expressed as a percentage, is taken from the SEDBUK index. This index, which was developed under the UK Government's Energy Efficiency Best Practice Programme with the help of boiler manufacturers, enables you to fairly compare different models of boiler.

The efficiency is calculated using standard laboratory tests and is stated as 'SAP 2005' or 'SAP 2009', depending on which calculation methodology was used. 'SAP' stands for standard Assessment Procedure, and describes how the boiler efficiency is measured. Traditionally, conventional boilers ranged from around 66-81% efficient, while condensing boilers were between 85% and 91% efficient (SAP 2005). Since October 2010 only boilers that are 88% or more efficient can be installed in homes and most modern boilers are between 88% and 89.7% efficient.

While the age and type of boiler affects how efficient it is the performance is not entirely dictated by the product itself. If the system is poorly designed or has inadequate controls the boiler will not perform as well as it could. Therefore it is important to remember that the information here just tells you about the boiler efficiency.

According to the Energy Saving Trust, if everyone in the UK installed a high efficiency condensing boiler with full sets of heating controls, we would save enough energy to heat nearly 1.9 million homes for a whole year and save around 6.7 million tonnes of CO2. However, you will not see a significant reduction in your gas bills when you replace a boiler that is only 88% efficient with one that is 98.7% efficient. The biggest savings can be made by replacing an old inefficient boiler with a new one.

You can find more information about the energy efficiency of this home in the Energy Performance Certificate (EPC). All sellers must have a current EPC and you should ask to have a look at it.

Outside facilities	No driveways. Rear enclosed stone walled garden with a concrete and stone flagged floor finish and small planted border. There are no permanent outbuildings. All roads and footpaths are made up unless otherwise stated.
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Summary of Structural Movement

There is no evidence of structural movement.

Summary of Dampness

A test for damp was carried out throughout the property at 1 metre intervals and where access allowed. No evidence of damp was found.

Further Investigations

If the surveyor is particularly concerned about any issues and recommends further investigation prior to exchange of contract, they are identified here.

Recommended investigation of defects seen or suspected:

- electrical installation
- drainage installation
- gas installation
- Damp investigation and condition of suspended timber ground floor. The solid fuel fireplace, flue and chimney should be investigated further, checked for serviceability and certified for use via the HETAS scheme for this type of solid fuel installation.



Issues for Legal Advisors

The surveyor is not a legal adviser and may not have seen any or all legal documents relating to the property. This is a job for your legal adviser or conveyancer.

However, during the inspection the surveyor may identify issues that need legal clarification or further investigation. Please pass a copy of this report to your legal adviser at the earliest opportunity.

Roads and footpaths	No specific issue was noted by the surveyor.
Drainage	No specific issue was noted by the surveyor.
Water	No specific issue was noted by the surveyor.
Drains	No specific issue was noted by the surveyor.
Planning and other permissions needed	The property has been altered by way of a single storey bathroom and utility extension which may have required statutory consents.
Freehold owner consents	No specific issue was noted by the surveyor.
Flying freeholds	No specific issue was noted by the surveyor.
Mining	No specific issue was noted by the surveyor.
Rights of way	No specific issue was noted by the surveyor.
Boundaries (including party walls)	Boundaries were well defined but the fence to the rear right hand boundary (West) was in a poor condition and replacement is advisable. Ownership requires establishing.
Easements	No specific issue was noted by the surveyor.
Repairs to shared parts	Some work required to maintain/repair the shared chimney. This will require party wall consent.
Previous structural repairs	No specific issue was noted by the surveyor.
New building warranties	No specific issue was noted by the surveyor.
Building insurance (ongoing claims)	No specific issue was noted by the surveyor.
Tree preservation orders	No specific issue was noted by the surveyor.
Property let	No specific issue was noted by the surveyor.
Title	Electrical or gas safety and installation certification not seen. Copies should be obtained. Damp proof course - There is evidence of an installation but no copies of any certification have been seen. Copies if available should be obtained. No copies of certification for the UPVC window and door installation have been seen. Copies should be obtained if available.

Property Risks

Risks to the building and grounds:

Contamination	No specific issue was noted by the surveyor.
Flooding	No specific issue was noted by the surveyor.
Trees and vegetation	No specific issue was noted by the surveyor.

Risks to People


This section covers defects that need repair or replacing, as well as issues that have existed for a long time and do not meet modern standards, but cannot reasonably be changed. These may present a risk or hazard to occupiers or visitors. If the risks affect a specific element they will also be reported against that element.

Escape windows	No specific issue was noted by the surveyor.
Attached garage	No specific issue was noted by the surveyor.
Fire doors	No specific issue was noted by the surveyor.
Safety glass	No specific issue was noted by the surveyor.
Lead pipes	There may be lead pipes at the property. You should seek the advice of the local Water Authority on whether this poses a health risk in this locality.
Radon gas	No specific issue was noted by the surveyor.
Gas	No specific issue was noted by the surveyor.
Handrails	No specific issue was noted by the surveyor.
Asbestos	Some construction materials and products used at the property may contain asbestos. Any such materials should not be drilled or disturbed without prior advice from a licensed specialist. For more information see attached leaflet.
Unsafe fittings	No specific issue was noted by the surveyor.
Recent testing	There is no evidence to confirm the recent testing and / or servicing of the boiler, gas appliances, electrical installation, solid fuel appliances and chimneys and flues. Failure to test the services increases the safety risk.
Inappropriate living	No specific issue was noted by the surveyor.
Stairs and guarding	No specific issue was noted by the surveyor.
Insect nests	No specific issue was noted by the surveyor.
Smoke detector	No specific issue was noted by the surveyor.
Roof space partition	No specific issue was noted by the surveyor.
Vermin	No specific issue was noted by the surveyor.
Lead paint	No specific issue was noted by the surveyor.
Ponds and garden features	No specific issue was noted by the surveyor.

Other risk

Due to the poor condition of the chimney, lack of certification and evidence of debris in the flue, we would advise that this installation is not used until checked and certified as safe as this can pose a danger to health due to the potential for the escape of carbon monoxide and other combustion gases when in use.

A sticker was placed to the electrical consumer unit identifying a potential lack of earthing. This poses a potential risk to health.

	Description and Justification for Rating and any comments	Condition Rating
D1. Chimneys and flues	<p>The chimney stack is brick built. This appeared to require some maintenance work in pointing and re-building of the the top brick work courses and cement/lime haunching. This was likely to have affected the functioning of the building and will require remedial work prior to any use of the solid fuel fire and flue. Condition rating 3 as will require further investigation, testing of the installation and certification by a HETAS (Heating Equipment Testing Approval Scheme UK) prior to any use.</p> <p>This is considered serious and in need of urgent repair or replacement.</p>	3
		
Chimney Stack		
D2. Roof coverings	<p>The main roof is pitched and covered with man-made slates.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
D2. Roof coverings Roof coverings 2	<p>The extension roof is flat and covered with a fibre glass covering (GRP).</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
D3. Rainwater pipes & gutters	<p>The rainwater fittings are a mixture of plastic and metal.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
D4. Above ground waste & soil pipes	<p>The above ground waste water pipes are PVC. The waste ventilation stack is PVC.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
D5. Main walls (including claddings)	<p>The outside walls are of solid construction.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
D6. Windows	<p>The windows are a mixture of types. The front first floor are hardwood timber sash . The ground floor front windows are a softwood timber casement. Bothe these sets are single glazed. The remainder of windows are double glazed and a PVCu type.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1

D7. Outside doors (incl. patio doors)	<p>The front door is timber with glazed panels. The extension door is PVCu with glazed panels. The dining room doors are PVCu French style double doors.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	<p>1</p>
D8. Other external woodwork etc	<p>The outside woodwork has been changed to PVCu at the rear. There is a section of timber fascia (board which gutter is fixed to) retained at the front.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	<p>1</p>
D9. Outside decoration	<p>Decorated areas may include such items as windows, doors, walls, timbers at roof edges, porches. Neither the front walls or the rear rendered walls are decorated.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	<p>1</p>
D10. Other outside detail	<p>There is a TV aerial attached to the chimney which has corroded and collapsed. The aerial is redundant and poses no danger at present but would benefit from removal in the near future.</p> <p>Some repairs or replacements are required but these are not considered serious or urgent.</p>	<p>2</p>



I could not inspect the roof structure because the roof structure was boarded below which prevented access.		
	Description and Justification for Rating and any comments	Condition Rating
E1. Roof structure	The roof structure was boarded below which prevented access.	NI
E2. Ceilings	The ceilings are constructed from plasterboard and from plaster on wood laths [lath and plaster]. No repair is presently required. Normal maintenance must be undertaken.	1
E3. Inside walls, partitions & plasterwork	The internal walls and partitions are partly of masonry and partly of timber construction. No repair is presently required. Normal maintenance must be undertaken.	1
E4. Floors	The floors are of both timber and concrete construction. Suspended timber to the ground floor lounge, dining room and hall and solid in the kitchen, utility and bathroom. The first floor is softwood timber flooring. The loft storage room is laid with a Weyroc type (chipboard flooring). Floor coverings in place carpets and laminate limited the inspection accordingly. Although no serious defects were found we feel it prudent to carry out further inspection of the suspended timber flooring to the ground floor as these can be susceptible to moisture and decay, particularly at the front where the flooring meets the external wall. Further advice should be obtained.	3
E5. Fireplaces & chimney breasts	The chimney breast is of masonry construction. A fireplace remains in the lounge. this is an open solid fuel fireplace. There was evidence of debris having collected which would suggest that the chimney flue requires cleaning. Refer to comments made in D1, Health & Safety section in G and recommendations made in section B. Some repairs or replacements are required but these are not considered serious or urgent.	2
E6. Built-in fittings	The kitchen fittings are modern. The utility room fittings are modern. There was a fridge freezer and dual fuel gas and electric cooker present in the kitchen. There was a dishwasher and washing machine present in the Utility room. No appliances were tested but these appeared modern and in good condition. No repair is presently required.	1
E7. Inside woodwork	The internal woodwork includes such items as: doors, frames, skirting, banisters and staircases. All the doors are made from softwood. No repair is presently required.	1
E8. Bathroom fittings	The sanitary fittings in the bathroom include such items as bath, basin, WC and are modern. No repair is presently required. Normal maintenance must be undertaken.	1

The services are generally hidden. Only the visible parts will be inspected and the surveyor does not carry out specialist tests, so the surveyor cannot comment on how efficiently the services work or if they meet modern standards. Domestic appliances are not included.

	Description and Justification for Rating and any comments	Condition Rating
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Ideally, a property offered for sale should have a valid and current electrical safety certificate which shows that the electricians continue to uphold the national safety standard.

If the seller does not supply a valid and current electrical safety certificate the surveyor will automatically give the electricity system a Condition Rating 3. In that instance, either you or the seller should get a qualified electrician to test the electricity system—ideally before exchange of contracts but certainly before you move in. You can find a registered qualified electrician by searching the Electrical Safety Council's website <http://www.esc.org.uk/public/find-an-electrician/>

It is better to be safe than sorry. Electricity is dangerous and poorly maintained, installed or damaged electricity supplies can put you at risk from electric shocks and fires.

F1. Electricity	<p>There is an underground electrical supply and the meter is located in a cupboard in the lounge. The consumer unit [fuse box] is located in the cupboard under the stairs. A sticker is present on the consumer unit which indicates that British Gas have at some time inspected and have some concerns as to the earthing of the system. You should have this checked as a matter of urgency.</p> <p>Further advice should be obtained.</p>	3
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AH75CF244EY (114) (640x480).jpg Electrical consumer unit

The Gas Safe Register is the official gas registration body for the United Kingdom, and by law all gas engineers must be on the register. When a Gas Safe registered engineer fits or services a gas appliance to see if it is working safely and that it meets the correct safety standards, they will often leave a report which explains what checks they did and when the appliance next needs servicing. This report may be issued as a 'gas safety record' or 'gas safety certificate'. The Gas Safe Register recommends that a gas safety check is done on all gas fittings and appliances every year.

Ideally, the seller should supply a current and valid gas safety record or certificate for all the gas appliances they will be leaving at the property. If the seller does not supply these documents the surveyor will automatically give the gas a Condition Rating 3. In that instance, either you or the seller should get a Gas Safe registered engineer to check the appliances, ideally before exchange of contracts but certainly before you move in. You can find a registered qualified gas engineer on the Gas Safe website <http://http://www.gassaferegister.co.uk>

It is better to be safe than sorry. Badly fitted and poorly serviced appliances can cause gas leaks, fires, explosions and carbon monoxide poisoning.

F2. Gas	<p>There is a gas supply and the meter and valve are located in the cupboard in the lounge. The lack of available certification warrants further investigation. Refer to Section B Further investigation.</p> <p>Further advice should be obtained.</p>	3
F4. Water	<p>There is a mains water supply. The incoming mains pipework is not visible (refer to section B Health & Safety) and the stop valve is located in the kitchen. The visible pipework is comprised of modern materials.</p> <p>No repair is presently required. Normal maintenance must be undertaken.</p>	1
F5. Heating	<p>The heating and hot water is provided by a gas condensing boiler which is located in the Bathroom.</p> <p>Further advice should be obtained.</p>	3
F6. Drainage	<p>There is a mains drainage system. The main chamber to the rear was opened and there was a visible blockage on the drainage run from the bathroom. The PVC inspection chamber was not opened as this was screwed tight. The drain requires cleaning from the bathroom to main chamber otherwise the system appeared to be free flowing and in a reasonable condition.</p> <p>Some repairs or replacements are required but these are not considered serious or urgent.</p>	2



AH75CF244EY (33) (640x480).jpg



	Description and comments
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Outbuildings

Garages	There are no garages.
Permanent outbuildings	There are no permanent outbuildings.

Grounds

Grounds	No grounds to the front of the property.
Paved areas	There are paved areas and paths to the rear consisting of stone and concrete that are in a good condition.
Boundary and retaining walls	The boundary walls are stone built. These are in a good condition. The fence attached to the West boundary wall is of timber construction. This is in a dilapidated condition and some works of repair are required. Ownership and therefore repair responsibility should be confirmed. Refer to Section C.
Common (shared) areas	There are no common areas.

Information about the surveyor

Name	Mr Ashley Halton	
Qualifications		
Address	x, x, MK5 8NA	
Contact details	Email	ashley.halton@ahsurveying.co.uk
	Telephone	0
	Date of finalising the report	08-Jan-2018
Signature		



What to do if you have a complaint

If you have a complaint about this Home Condition Survey or the surveyor who carried it out you should follow the procedures set out below:-

- Ask the company or surveyor who provided the report to give you a copy of their complaints handling procedure. All surveyors must have a written procedure and make it available to you if you ask
- Follow the guidance given in the document, which includes how to make a formal complaint

You may ask the SAVA HCS Scheme to investigate the complaint directly if:-

- Your complaint involves an allegation of criminal activity, in which case SAVA will notify the Police
- The company fails to handle your complaint in line with its procedure
- You are not happy with how the surveyor has handled your complaint
- You have exhausted the company's complaints procedure and remain dissatisfied

SAVA
The National Energy Centre
Davy Avenue
Knowlhill
Milton Keynes MK5 8NA



Further investigations and obtaining quotes for work

If the surveyor was concerned about any part of the property (perhaps because it could not be inspected properly and there is a possible hidden defect) then they will have recommended further investigation. You should use an appropriately qualified person to undertake these investigations (for instance a plumber who is on the Gas Safe Register for anything to do with gas). The Government's web site

www.direct.gov.uk/en/HomeAndCommunity/Planning/index.htm will give you useful information on this, plus planning consent and building regulations.

Some investigations may involve disturbing the current occupier, so you should discuss them with the home owner or agent as soon as you can.

Ideally, you should also get quotations for any work needed before you legally commit to buying a property as the cost of repairs may influence how much you are prepared to pay.

You should obtain written quotes from all the professionals and companies you are likely to use, such as architects, builders and package companies (such as loft converters and kitchen fitters). When getting quotations make sure that they cover both materials to be used and the labour, that the company providing the quote is properly insured and that they can provide recommendations from other people.

Doing the work

Not all the work needs to be done immediately. Some can be planned with alterations or other improvements that you are planning. The condition rating attributed will help you decide when to do the work.

Condition Rating 3 repairs are likely to be urgent and ideally should be done as soon as possible after you move in. Condition Rating 2 repairs can usually wait. It is difficult to say how long you should wait as extreme weather, for example, could cause rapid deterioration. Where an element is Condition Rating 2 but you do not plan to repair it immediately it should be regularly monitored to check that it is not getting worse.



Home condition survey

Before instructing a surveyor you should understand the “terms” under which the report is prepared so you have a clear understanding of the level of service you are buying. The “terms” of the report are set out below.

To confirm you understand the “terms” of the service, please sign two copies of this letter and return one to the surveyor. Please keep a copy for your own records.

Introduction and terms on which this report is prepared

When you buy a home it is recommended to have an independent report on the condition of the property. The Home Condition Survey is produced by a surveyor who is a member of the SAVA Scheme. The surveyor will provide an objective opinion about the condition of the property which you, as the buyer, will be able to rely on and use.

The surveyor

The surveyor is a member of the SAVA Scheme, which is operated by National Energy Services Ltd, and has passed an assessment of skills and holds one of the below:

- Level 4 Diploma in Home Inspection
- Level 6 Diploma in Residential Surveying and Valuation
- Associate/Member of RICS whose professional competency has been approved by SAVA.

In addition the surveyor will:

- have insurance that provides cover in the event the surveyor is negligent
- follow the scheme and product rules required by SAVA
- lodge the report on the SAVA register for regular monitoring of competence
- have a complaints procedure which includes an escalation route to SAVA
- have had a criminal records check undertaken

The inspection

The surveyor must follow the inspection standards and code of conduct set by SAVA. A copy of these can be found on www.myhomeconditionsurvey.co.uk.

The Home Condition Survey is in a standard format and is based on terms which set out what to expect of both the surveyor and the Home Condition Survey. Neither you nor the surveyor can amend these terms for the survey to be covered by the SAVA scheme. However, the surveyor may provide you with services beyond the report. These services are not covered by these terms nor by the Scheme and so must be covered by a separate contract.

What this report tells you

This report will provide you with the following information:

- The construction and condition of the property on the date of inspection
- Whether more enquiries or investigations are needed
- The reinstatement cost for insurance purposes derived from data supplied by the Building Cost Information Service (BCIS), except where:
 - the property is very large or historic
 - where it incorporates special features
 - if it is of an less usual construction not covered by BCIS data

In these circumstances a specialist would be needed to assess the reinstatement cost.

The main aim of this report is to inform you of:

- any serious defects or issues that may need attention and may affect your decision to buy the property
- areas that may require further investigation to prevent damage to the structure of the building
- matters that should be referred to your legal adviser for further investigation

The report applies “condition ratings” to the major parts of the main building. The report will not provide a condition rating to outbuildings. The condition rating applied will be; 1, 2, 3 or NI (not inspected - see “How the Inspection is carried out” below).

Condition rating definition

Condition Rating **1** - No repair is currently needed. Normal maintenance must be carried out.

Condition Rating **2** - Repairs or replacements are needed but the surveyor does not consider these to be serious or urgent.

Condition Rating **3** - These are defects which are serious and/or require urgent repair/replacement or where the surveyor feels that further investigation is required. For example, where the surveyor has reason to believe a repair work may needed but an invasive investigation is required to confirmation. A serious defect is one which could lead to rapid deterioration in the property or one which is likely to cost more than 2.5% of the reinstatement cost to put right.

You may wish to obtain quotes for additional work prior to exchange of contract where a condition rating 2 or 3 is given.

**What this report will not tell you**

This report will not tell you about:

- the value of the property
- matters that might affect value (such as the location of the property or the availability of public transport and other facilities)
- any minor defects that would not normally effect your decision to buy
- how to undertake any repairs to remedy any defects or deficiencies
- the cost of any repair work
- the efficiency of any services installed or any features that could only be effectively monitored over a longer period of time

If you need advice on subjects that are not covered by the Home Condition Survey, this must be arranged separately. The report is not an asbestos inspection under the Control of Asbestos Regulations 2012.

What, when and how the inspection is carried out?

You should understand that when the surveyor carries out the inspection the property does not belong to you, but to a third party. The surveyor undertakes a full visual and non invasive inspection (including loft spaces, cellars, all where the access is safe). The surveyor will look at the inside and outside of the main building, all permanent outbuildings, grounds and areas in common or shared use and the parts of the gas, electricity, water and drainage services that can be seen.

The surveyor will carry out the inspection from all vantage points possible, but cannot:

- report on leisure facilities or equipment
- report on temporary outbuildings
- trespass on adjacent private property
- walk on any sort of roof
- access areas that are more than 3m above the floor level – such features will be inspected from ground level or from a vantage point within the building
- take up or move carpets, floor coverings, floorboards or insulation etc.
- move heavy furniture or remove contents of cupboards
- move smaller items of furniture etc. without the express consent of the occupier
- force open or remove secure panels or the fabric of the building
- undertake a specialist test of any of the services, although where possible they will be observed in normal operation, or turn on any services that are not connected at the time of the inspection. The surveyor cannot comment on the efficiency of any services or renewable installations (such as photovoltaic panels)
- comment on sound insulation or noise of any sort

The surveyor will curtail the inspection if he/she feels it unsafe to continue for any reason (including the risk of damage to the property itself, risks to any occupiers or visitors and risks to the safety of the surveyor etc.)

The surveyor will check for damp in vulnerable areas using a moisture meter.

Flats

The surveyor will carry out a non invasive inspection at the level of detail set out above for the main walls and roof over the flat. The surveyor inspects the shared access to the flat and the area where car parking or the garage for the flat are located. The surveyor will not:

- inspect the rest of the block to this level of detail
- inspect shared areas or services to other flats in the block
- access the roof space unless the access is within the flat and subject to the restrictions outlined above
- comment on shared drains, fire or security alarms
- comment on any terms of the lease

Property risks

The surveyor assumes that the home is not built with nor contains hazardous material and is not built on contaminated land. However, if any materials are found during the inspection which may contain hazardous substances, if anything is identified which may damage the property or if the surveyor finds evidence to suggest any contamination of the land this will be reported and you may wish to seek further advice.

Risks to people

The surveyor will report on matters that may have existed for a long time and cannot reasonably be replaced or modified but may still, in the opinion of the surveyor, present a risk to occupiers or visitors.

Your rights and responsibilities

The report is for you to use and your legal advisor to use but the surveyor accepts not liability if you or anyone else chooses to pass this report to someone else.

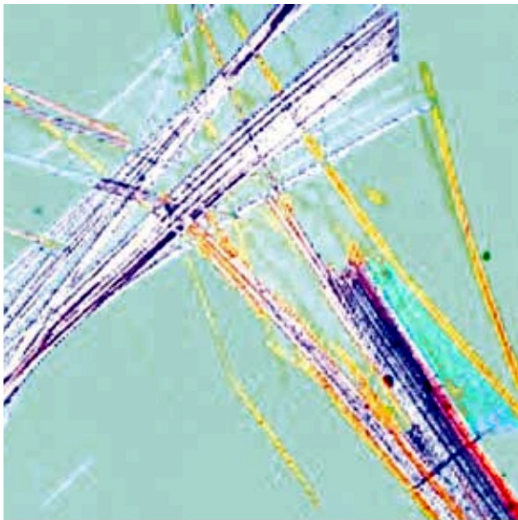
Upon instructing the surveyor you have a 14 day cooling off period; however, if you request that the surveyor carry out the inspection during this 14 day period, you will be liable to pay the full fee.



Asbestos in the Home

What is asbestos?

Asbestos is the name of a group of fibrous minerals (silicates) contained within certain rock, which has been mined in many parts of the world for centuries. Asbestos is not a scientific name, but is derived from the Greek word for "unquenchable" – a reference to its fire resistant qualities.



The scientific and commercial properties of asbestos were soon recognised. Asbestos has the ability to resist corrosion, has excellent thermal insulation properties and can sustain high temperatures without deterioration. Although substitutes have been developed to replace individual asbestos applications, nothing has ever been found or created which has all of the properties of this mineral.

Asbestos has been widely used since the industrial revolution but this use expanded dramatically during the 20th century. The construction industry accounted for the bulk of its use.

Early in the 20th century it became recognised that the fine needle-like fibres within asbestos products were hazardous if breathed in, and over time could cause cancers and other lung related conditions.

The commercial imperative and war resulted in this issue not being addressed

until the second half of the century, when various legislation and codes were introduced to limit its use, starting with the most hazardous forms.

Many people have heard of the most common forms of the mineral: blue, brown and white (crocidolite, amosite and chrysotile)—named in the order of the risk associated with each form in its raw state. Less well known are the risks when combined with other components e.g. the most hazardous form of the three is crocidolite, but if this is combined with cement to make a roofing sheets, it presents a much lower risk than chrysotile in a loose condition.

It is no longer legal to import or use asbestos in the UK, but the ban on use of the chrysotile form was only effective from November 1999. This means that asbestos can still be found in many thousands of products and locations. However, much of it is in a form that presents a very low risk, and if properly assessed and managed, can be allowed to

Where will I find it in my home?

Asbestos was widely adopted in the building industry and inevitably found its way into many homes in the UK. Where it can be found depends on the age of the property and the date of any additions, extensions and refurbishments. For instance, vinyl tiles contained asbestos up until the 1980s.

Textured wall coatings (e.g. Artex) can contain asbestos if they were applied up to the end of the 1980s, although it was mostly phased out by 1985.

Asbestos cement products such as imitation slate roof tiles, rain water systems, garage and lean-to roofs and walls are still extremely common and have also been used in as partitions, ceilings under stairs, airing and boiler cupboards and bath panels.

Asbestos insulating board (AIB) has also been used for indoor applications. Less common, but in certain parts of the country cement profiled sheets have been used in roofs. Sarking felt (used under slates and tiles in the roof space) and other external roofing felts contained asbestos until the 1980s.



Externally, boarding around the roof line are common examples of cement based products which may contain asbestos if they were installed before the end of 1999.

Asbestos may also be contained in miscellaneous items such as boiler and range flues; vent grilles and gaskets; old black toilet cisterns and seats; and even window boxes and planting containers.

Is it dangerous?

Most asbestos containing materials found in the home do not present a significant risk to those living there. The majority contain asbestos fibres bound in a matrix (the fibres are bound together in floor tiles by a plastic substance and in cement sheets by the cement itself).

This matrix limits the release of fibres, and the material only becomes a serious hazard if damaged or broken during removal. Such products can be removed by the householder or a non-licensed contractor if the person is aware of the danger and takes appropriate

precautions. Disposal of these products can be made at a local reclamation facility, most of which have special skips for asbestos.

Certain materials though, can only be handled or removed by a licensed contractor. This includes AIB and any loose product such as pipe or lagging insulation. Removal is likely to be expensive and involve extensive safety precautions. Waste product will be disposed of by the licensed contractor in accordance with the Hazardous Waste Regulations 2005.

Artex was until recently a licensed product, but has now been removed from this category. However, its removal inevitably involves breaking the material in to small pieces, and this will release fibres. It is wise therefore, to involve a person or contractor who has experience with such work. In reality this may mean a licensed contractor. Generally, a cheaper option is to plaster skim over the textured finish, giving a smoother appearance.

Maintaining asbestos containing materials is rarely a problem because they are normally already painted, or don't need painting. Applying further paint over an existing coat does not present a hazard if the material is undamaged. Painting a previously unsealed surface, particularly of AIB would need special precautions.

If you plan to undertake work on a material which may be asbestos you should always be sure you know what the material is, and whether or not a licensed contractor is required to carry out the work. If in doubt, obtain specialist advice from an asbestos surveyor (Yellow Pages: Asbestos Services or Asbestos Removal).

Are there any legal requirements?

The law requiring commercial property owners and managers to assess their buildings for the presence of asbestos containing materials (AcMs) does not apply to homeowners (although it does apply to landlords of flats who have a responsibility for the common areas). In this sense, it is unlikely that a homeowner would be liable for the exposure to asbestos of a contractor or other visitor to their home.

However, if the householder or occupant was aware of the existence of asbestos within the property, they would have a duty of care to inform the contractor or visitor if they were likely to come into contact with the material. Failure to do so could result in some liability under common law.

Insurance

Asbestos in domestic properties is not generally a significant issue for insurance companies. In the event of a major building insurance claim small amounts of asbestos would probably be accommodated in the claim without question. If a large quantity exists which might materially affect the rebuild cost of the home or part of it, the insurance company should be informed.

Additionally, there maybe a "Pollution or contamination" exclusion in the policy which means that the cost of clearing up asbestos, or dealing with claims from neighbours following a fire for example, would not be covered.

Further information

Health and Safety Executive website:
www.hse.gov.uk

Asbestos advice:
<http://www.hse.gov.uk/asbestos/>

Asbestos Information centre,
(independent site): **www.aic.org.uk**



Home Condition Survey

factsheet

Asbestos in the Home

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Electricity in the Home

Electricity in the modern home

Electricity has been used in domestic properties since the early 1920s following the invention of a cost effective and reliable lamp in 1907. But from its humble beginnings running a simple light bulb it has wormed its way into the very heart of our homes. It now allows us to mow the lawn, watch television, take a shower, wash clothes, cook and connect to the rest of the world via our personal computers and the internet.

Home owners usually take the electrical system for granted and why not? Flick a switch and the light or the TV comes alive. It generally requires very little or no maintenance on a yearly basis, never mind day to day. However, although electricity in the home appears to be inherently safe it should be taken into account that Official Health & Safety figures show that unsafe electrical installations cause more than 750 serious accidents and 12,500 fires in homes each year.

Government introduction of Part 'P' of the building regulations

Due to the large number of accidents, fires and deaths caused by poor installation, maintenance and general upkeep of

electrical systems within domestic houses the government introduced legislation in the form of a document known as Part 'P' of the building regulations. These regulations came into effect on 1st January 2005. The overall desired effect of these new regulations is to ensure the health and safety of the occupants and visitors within a domestic dwelling.

Who is allowed to carry out electrical work in a house?

1. Part 'P' registered electrician-full scope. As from the 1st of January 2005 all electrical installations (including alterations and additions) must be carried out by a competent person. In order to be recognised as a competent person he/she must have received suitable and sufficient training, qualifications and experience and registered on one of the governments 'competent persons' schemes. Being a member such a scheme allows the electrician to 'self certify' his work. This means he is able to design, install & test any work without notifying the local authority building control department prior to starting the work. All Part 'P' registered electricians must adhere to the exacting standards laid down in **BS7671** the Institute of Electrical Engineers (IEE) Wiring Regulations.

2. Part 'P' registered electricians limited scope. Some kitchen & bathroom fitting companies are deemed competent to carry out electrical work limited to the connection of their primary role, i.e. kitchen and bathrooms only.

3. The home owner is permitted to carry out small repairs and maintenance. Generally extending to;

- Replacing existing accessories, such as sockets & switches
- Replacing a single length of damaged cable on a like for like basis

What to expect from an electrician?

On completion almost all work carried out by an electrician the home owner should be provided with a copy of the test certificate. These come in two forms;

1. Minor works certificate covering alterations or additions to the original wiring

2. Installation certificate covering all major installation tasks such as installing a new circuit, maybe a shower or installing a new consumer unit.

All installation tasks **and** any minor works carried out in what are deemed as '**special locations**' (outdoors, kitchens, bathrooms or rooms containing a shower) must be notified to the Local Authority Building Control Department. The electrician is responsible for doing this in conjunction with his Part 'P' scheme provider. Within 6-8 weeks a building control certificate should be received. These certificates will be required by a solicitor upon the sale of the property.



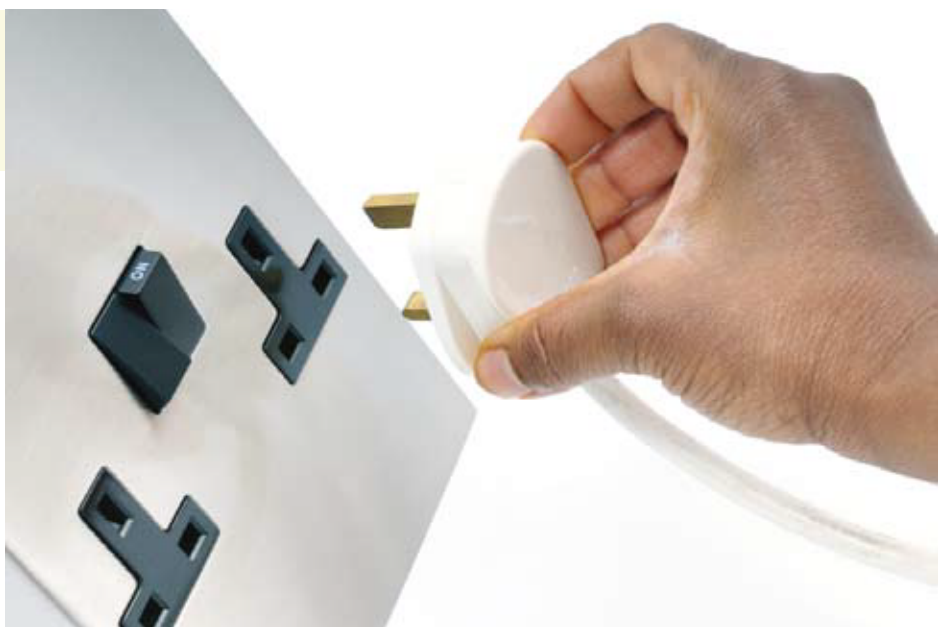
Why should I have my electrical system tested?

The vast majority of the electrical installation is built deep within the fabric of the building, hidden in the walls, the ceiling, the floors, loft space and even under the bath. The fuse box (now called a consumer unit) will be hidden in a dark cupboard at the bottom of the stairs behind the vacuum cleaner or the ironing board. These items receive almost no attention from the day they were installed. All elements of the installation will deteriorate over time, nothing lasts forever. Cables become worn due to heat damage, rodents nibble away at the insulation, and screws work themselves loose and create bad joints. If your house was built in the 1970s its wiring is now getting on for 40 years old. As time has passed improvements and safety features have been built into the modern electrical installation. Is your house as safe as it could be?

Why should I have my electrical system tested?

1. The recommendation given by the IIE is that all domestic dwellings should be tested at a period not exceeding 10 years.

2. If you are moving home, you need to know about the electricians in your new property. Be extra cautious if the property is old as it runs a higher risk of having faulty wiring. Although the lights may work when you take a look at your new home it does not by any means ensure it is safe. How old is the property? Has it been altered in any way since new? Who carried out the work? Did they really understand what they were doing? It's easy to make an electrical circuit work- it's far more demanding to make the circuit work safely. It would be useful to know of any underlying deficiencies prior to moving in. Rewiring a house is a messy and expensive operation. If some remedial electrical work is required, budget for it and get the work done before you have the walls skimmed and install a new kitchen or



bathroom. Remember, rewire first-decorate later. Don't put your life or your investment at risk; get an electrical survey of your new home before you sign on the dotted line.

Who should I contact to test my electrical installation?

Any full scope Part 'P' registered electrician who holds the correct private indemnity insurance to carry out this type of work. The report is known as a Periodic Inspection Report.

What should I expect to gain from a Periodic Inspection Report?

This type of testing can take anything up to a day to complete. It covers every element of the condition of the installation from the suppliers fuse to the light bulbs. It is primarily concerned with the general condition of the fuse box/consumer unit, fixed cables buried within the walls & floors, main earth bonding arrangements and accessories.

On completion you should be provided with a copy of the test certificate along with written advice explaining what work is required to bring the installation up to the required standard.

Further Information:

Part 'P' registration scheme:
www.napit.org.uk

Part 'P' registration scheme:
www.niceic.org.uk

Local authority building control:
www.labc.co.uk

Government website:
www.communities.gov.uk

Planning portal website:
www.planningportal.gov.uk

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Energy Efficient Appliances



Key Points

- Establish any opportunities to replace old appliances with modern, energy efficient models.
- Recommend to:
 - Look for the logo: Energy Saving Recommended.
 - Replace those with higher energy demand first, which are usually large, cold appliances.
- Promote genuine energy saving behaviours, such as low energy cycles. Dispel energy saving behaviour 'myths' (see 'Behaviours').

Behaviours

Energy saving behaviours

- Choose the lowest energy cycle.
 - For dishwashers this is usually the ecocycle.
 - For washing machines this is usually shortest and coolest cycle, as long as this gives a satisfactory washing performance
 - Washing all clothes at 30 will save around 40% of the energy used by the washing machine per year.
- Wait until there is a full load before running the appliance.
- Air dry clothes whenever you can.

Energy saving myths

The following do not give significant savings and should not be recommended:

- Myth: Packing empty freezer space with cardboard boxes reduces energy.
- Myth: Cleaning the fins of the fridge freezer will make it work much more efficiently.
- Myth: Running a half load on your washing machine will use half the amount of energy and water.

Savings Potential

- If all the UK households' old fridge-freezers were upgraded to Energy Saving Recommended, we would save around £460 million from our energy bills and 1.7 million tonnes of CO₂ a year.
- Typical savings for swapping an **old appliance** for a **new Energy Saving Recommended appliance** are shown below. Quoting typical 'lifetime' savings could provide further incentive.

Nb. The market for cold A++ is currently small, although typical savings are also given.

	Swapping old unit for Energy Saving Recommended (Swapping old unit for A++ unit)			
	Annual Saving		Lifetime Saving	
	£/yr	kgCO ₂ /yr	£ lifetime	kgCO ₂ lifetime
Fridge Freezer	£39 (£47)	140 kg	£469 (£568)	1,700 kg
Freezer	£23 (£29)	85 kg	£279 (£345)	1,000 kg
Refrigerator	£13 (£16)	50 kg	£160 (£185)	580 kg
Washing Machine	£11	45 kg	£133	540 kg
Dishwasher	£23	90 kg	£270	1,100 kg

For price and energy saving assumptions, see accompanying note

Further Information

- **AMDEA** is the UK trade association for large and small domestic appliances

Tel: 020 7405 0666 www.amdea.org.uk

Frequently Asked Questions

Why is water usage important for appliances such as washing machines and dishwashers?

The main source of energy use in an appliance such as a washing machine is the energy used to heat the water. Therefore, limiting both the water temperature and the volume of water heated will significantly reduce the energy consumption of the appliance.

However, water efficiency is an important consideration when considering the purchase of a new water using appliance in itself, as water is becoming a scarcer resource in the UK. Also, there are carbon dioxide emissions associated with extraction, cleaning and provision of water to homes.

Energy Saving Recommended criteria for washing machines is AAA – what does this mean?

These represent energy, washing performance and spin drying performance. The energy rating relates directly to how much energy the machine will use in washing, although the spin element is also important for energy use and carbon dioxide emissions. If a clothes dryer, such as a tumble dryer, is being used, clothes which have been through a higher spin will require less energy to dry, as they will contain less water. This is because the energy used to dry clothes in a tumble drier is much greater than the energy used to spin the clothes in a washing machine – which only accounts for a small part of the energy used in a washing cycle.

Are there any appliances that run on solar energy?

No, but solar photovoltaic panels can be connected to the house electrical system thereby helping to power any appliance within the home. However, solar energy can also be used as a dedicated power source for small appliances, usually within the garden.

I am looking at lots of A+ appliances, how do I tell which unit uses the least energy and emits the least carbon dioxide?

Different sized appliances may have the same energy rating, but use different amounts of energy. The energy label displayed always show the energy used by the product – shown as 'kWh' – which is displayed per use of the appliance or per year, depending on the type of product. This is related directly to the running costs and carbon dioxide emissions, so comparing these directly between appliances will show which has the lower running costs and emissions.

Is it better to keep using my old appliances until it breaks, or replace it now?

If your appliance is old – 10 years or more – then it will save carbon dioxide emissions and running costs to replace it now with an energy efficient model. Look for the Energy Saving Recommended logo and you know it will be one of the most efficient available. For example, replacing an old fridge-freezer with an Energy Saving Recommended model will save around £39 and 140kg of CO₂ a year.

What do I do with my old appliance?

In 2007, regulations were brought in to increase the re-use and recycling of waste electronic and electrical equipment (WEEE) and decrease the amount being sent to landfill. These regulations make producers responsible for financing the collection, treatment, and recovery of waste electrical equipment, and oblige distributors (for example shops) to allow consumers to return their waste equipment free of charge.

When buying new electrical products, you should tell the retailer if you are making a like-for-like purchase and ask them how they will take back your old equipment. They should either offer to take back the goods in store, or advise you where the nearest designated collection facility (DCF) for WEEE is located. Some retailers also offer a collection service for larger goods which they are allowed to charge a collection fee for. You can also contact your local authority when disposing of WEEE whether you are buying new equipment or not to find out what facilities are available in your area.

Is it more water and energy efficient to use a dishwasher than wash up by hand?

This depends very much on how you do your washing up, how efficient your dishwasher is, and how you use it. It is possible to wash up by hand efficiently, if you use a bowl and watch how much water you use. However, if you have an efficient machine that you fill to capacity and run on an ecocycle, then this is likely to use less water than washing up by hand a number of times per day.

Which uses the least energy is less obvious, and depends very much on how you do the washing up, what sort of hot water heating you have, and the type and usage of your dishwasher.

How is an appliance's energy rating worked out?

Each type of product has its own test methodology. For example, an energy rating for freezers will be based on the freezer's volume and the energy required to maintain that volume at specific temperatures.

Many other countries wash with cold water – why don't we do it here?

This is mainly due to the type of machines available here and the ambient temperature. In many countries that use cold water washing, the typical machine is a top-loader, which typically uses much more water than the front-loaders which we have in the UK. Those countries that wash with cold water in Southern Europe, Australia and New Zealand also have somewhat higher natural input temperatures of water due to the warmer climate. Also, householders in these areas tend to add higher amounts of bleaches and detergents to the wash.

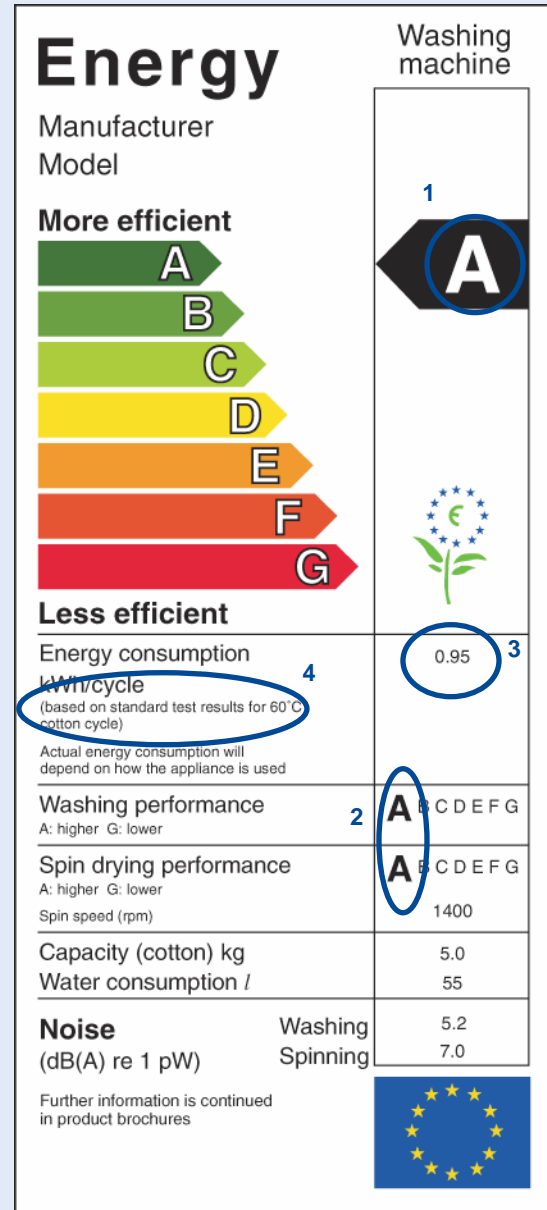
What does the + or ++ mean after the A rating on some appliances?

For refrigeration products only, the 'A' rated category is now divided into three new category levels: 'A', 'A+' and 'A++'. The latter is the most energy efficient.

Key Customer Questions

When choosing a new energy efficient appliance, there are some key questions for the customer to consider:

- What is the energy rating of the appliance? Look for the Energy Saving Recommended logo to guarantee that this is one of the most efficient products on the market.
- What is the **EU energy label** (shown right)?
This shows the appliance energy (1) and performance ratings (2), and gives the typical energy consumption per cycle (3) or per year. Comparing these between different products gives the best indicator of which unit has the lowest cost and CO₂ emissions, and should be used alongside the energy rating.
- How is the energy label calculated? The label shows which cycle the energy label test is based on (4).
- When buying as part of a kitchen package, appliances may be of a low energy efficiency. Check when making the purchase.



Background

Domestic appliances range from fridge freezers to bread-makers and vacuum cleaners. This factsheet considers the major domestic appliances or 'white goods' only, although ownership of other products is significant and increasing.

The 'cooling' and 'wet' sectors combined account for 11% of the UK's domestic CO₂ emissions. UK households use £2.2 billion worth of electricity every year on cooling and freezing food and drinks alone.

Penetration of major domestic appliances in UK homes is high, as shown in the table below:

Appliance	% of UK households with unit
Fridge-freezer	65%
Refrigerator	43%
Freezer	46%
Washing machines (inc all washer-dryers)	78%
Tumble dryers (inc all washer dryers)	94%
Dishwashers	42%
	58%
	28%

Based on data from Defra's MTP WhatIf model for 2007

Different Technologies

Major domestic appliances, otherwise known as 'White Goods', are split into two categories: **Cold** and **Wet** appliances.

COLD appliances

These are fridge freezers, refrigerators and freezers

- **Energy Saving Recommended criteria** states that these should be A+ or above.
- The fridge-freezer is one of the most common major domestic appliances, and also that with the highest potential for savings due to its high energy consumption..
- There are currently some models on the market which reach A++, although these are still limited and represent less than 1% of the 'cold' market.
- Different types of cold goods:
 - The 'upright fridge-freezer' is the most common type in UK homes.
 - The 'US side by side' has a full fridge and freezer. These tend to be larger, incorporate a water cooling unit, and typically have a significantly higher energy demand than standard fridge-freezers. There are few A+ models in this category.
 - 'Frost-free' units cycle their temperature to prevent ice build up in the freezer, and typically use 10-15% more energy than a standard model. However, this type does not allow ice to build up in the freezer compartment. Also, the energy label criteria bands are the same for both standard and frost-free models.
 - 'Refrigerators' are a single unit with an icebox.
 - 'Chest freezers' typically have a lower energy demand than upright freezers, although energy consumption should always be compared by checking the EU energy label.

WET appliances

These are washing machines, dishwashers and clothes dryers

Washing machines

- **Energy Saving Recommended criteria:** Current criteria states that machines should be AAA
- EU energy label incorporates 3 categories: energy efficiency, clean efficiency and spin efficiency.
- The part of the wash cycle which uses most energy is heating the water.
- Highest EU label currently A for energy efficiency.

Dishwashers

- **Energy Saving Recommended criteria:** AAA + EU ecolabel criteria for water consumption – note that carbon impacts of water are being investigated.
- The part of the wash cycle which uses most energy is heating the water.
- These come in a variety of different sizes – from bench top to full size. Use the EU energy label rating along with the stated energy use in kWh to compare different units.

Clothes dryers

- **Energy Saving Recommended criteria:** B rated or above, although C rated is permissible with an 'autodrying' function. Standby of no more than 1W is permissible.
- Standard dryer models may be vented or condensing. Both types can be found with an auto drying function, which prevents over drying of clothes.
 - Vented clothes dryers draw in cool, dry air, which is heated and passed over clothes. The air is then expelled as warm, damp air.
 - Condensing clothes dryer do not require venting, but use more electricity than vented tumble dryers.
- **Heat pump dryers:** Currently, the only A rated units use available use this technology. Unlike condensing dryers (which use a passive heat exchanger) these use a heat pump. The heat pump allows much more of the heat to be conserved within the dryer. Also, they do not need ducting, which is an additional benefit.
- **Gas dryers** are now available in the UK. For the same energy rating, these are cheaper to run and will have lower CO₂ emissions. Nb They must be installed by a Corgi registered gas fitter.

Finding the Product

Most suppliers of white goods offer some energy efficient alternatives – the key is to look on the energy label or look for the Energy Saving Recommended logo.

Compliance

This is generally not applicable to white goods. However, a Corgi registered gas fitter must install a gas tumble dryer.

NB from 1st April 2009, the gas installer registration scheme will no longer be run by Corgi. The Health and Safety Executive have awarded the contract to Capita Group plc (Capita)

Industry Developments

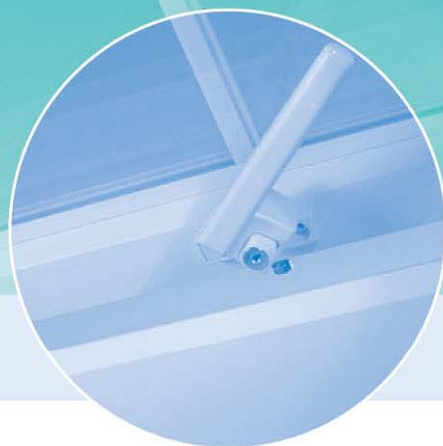
Sales of high efficiency appliances are increasing. The main opportunities lie in upgrading old appliances to Energy Saving Recommended, and ensuring that new purchases meet minimum requirements of these criteria.

This is not true of the clothes dryer market. It is expected we will see more promotion of **heat pump dryers** over the next 12 months and beyond. Also, expect **upward revision of criteria for Energy Saving Recommended clothes dryers** to B and above only within the next 12 months.

The Waste Electrical and Electronic Equipment (WEEE) Directive came into force in 2007. All electrical products must now be marked with the WEEE symbol and retailers are obliged to have procedures in place to deal with their customers' old equipment. Householders purchasing new appliances should be made aware of the WEEE regulations to ensure that their old goods do not add unnecessarily to the waste stream.

Note: Domestic appliances range from fridge freezers to bread-makers and vacuum cleaners. This factsheet considers the major domestic appliances or 'white goods' only, although ownership of other products is increasing. In the next 12 months, it is expected that further Energy Saving Recommended criteria for other products will be developed.

Energy Efficient Glazing



Key Points

- Establish opportunity to replace windows – tenure, funds, and current glazing type (single glazing or old double glazing).
- Are they in a conservation area or come under an article 4 directive? If yes, double glazed specialist window types or secondary glazing are options.
- There are CO₂ and fuel bill savings for high efficiency windows over standard double glazing – opportunity to install high efficiency glazing may not reoccur for many years.
- Where windows cannot be immediately replaced, draught proofing should be recommended.

Further Information

BFRC provide the rating system for windows
Tel: 020 7403 9200 www.bfrc.org

FENSA (Fenestration Self-Assessment Scheme) (England and Wales only).
Tel: 0844 84 888 28 www.fensa.co.uk

GGF represent the glass and glazing trade in the UK
Tel: 0870 042 4255 www.ggf.co.uk

Savings Potential

If everyone in the UK who could installed Energy Saving Recommended (ESR) double glazing we could save £850 million from our fuel bills and enough energy to heat over 1 million homes per year.

- The annual CO₂ and financial savings for replacing all single glazed windows in a typical property are given below:
- If replacing **old double glazing** with **A-rated high efficiency** double glazing, additional savings will be achieved.

A typical gas-heated semi would save an additional £430 and 3 tonnes of CO₂ over the **lifetime** of the windows by installing A rated windows, compared to a current building regulation (E-rated) replacement window.

		Single to ESR double glazing (C rated) Annual savings			Single to A rated double glazing. Annual savings		
		2 bed Flat	Mid terraced	Semi-detached	2 bed Flat	Mid terraced	Semi-detached
Gas	£ / yr	£40	£105	£140	£45	£115	£155
	kgCO ₂ /yr	200	540	720	220	580	780
Electric	£ / yr	£65	£190	£260	£75	£200	£285
	kgCO ₂ /yr	450	1,300	1,800	490	1,400	1,900
Oil	£ / yr	£55	£150	£205	£60	£160	£220
	kgCO ₂ /yr	240	640	870	250	680	930
LPG	£ / yr	£60	£155	£210	£65	£150	£210
	kgCO ₂ /yr	220	590	780	250	570	800
Solid	£ / yr	£45	£115	£160	£45	£125	£175
	kgCO ₂ /yr	480	1,300	1,800	520	1,400	1,900

Behaviours

Carbon and financial benefits for these actions are small:

- **Curtains:** Heavy curtains can reduce heat loss through a window if drawn at dusk. Keeping curtains open where sun shines through will maximise solar gains.
- **Vents:** Using trickle vents in winter instead of opening windows will minimise heat escape whilst maintaining adequate ventilation. Nb It is not possible to retrofit trickle vents.

Frequently Asked Questions

Why does condensation appear between the panes of my double glazed windows during the winter?

Condensation on double glazed windows is caused by moisture between the glass layers. When it is cold, the moisture condenses on the outer glass pane, very much like water beading up on the outside of a cold glass of water. This is a sign that the seal between the two sheets of glass is beginning to fail.

Will double glazing eliminate condensation on windows?

Double glazing will certainly reduce the amount of condensation and in some cases eliminate it, although this cannot be guaranteed. Additionally, double glazing may cause condensation to form in other parts of the house where the ventilation is restricted. If this presents an issue, then further ventilation should be considered.

Those with low-e glass may find that external condensation occurs. This does not indicate a problem with the windows, and occurs mainly on north-facing windows.

Why do I need trickle vents in my new double glazing?

All houses need a certain amount of ventilation to prevent the build up of condensation, as well as removing unpleasant household odours. Badly fitting doors and windows do this in an uncontrolled way. Trickle vents allow you to control the amount of ventilation and reduce the potential loss of warm air. In some cases trickle vents may also be required to comply with building regulations.

Can I install double glazing on a 'Do-It-Yourself' basis?

We recommend that you use a FENSA registered installer. It is possible to install double glazing yourself, but the units must comply with stringent building regulations and European directives, and you will have to arrange building regulations approval yourself with the local council.

What are the benefits of double glazing?

The main benefit of double glazing is that heat lost through the windows will be at least halved. The risk of condensation building up will be reduced, there will be fewer draughts and your rooms will be more comfortable. Additionally, double glazing can reduce the noise level from outside and certain frame types will reduce the amount of maintenance required by the householder.

Can you install double glazed doors and windows on listed buildings?

Such properties are exempt from current building regulations and it is important to check with the Building Controls Department at your local authority before starting the project. If necessary, manufacturers can supply doors and windows to match the existing style and appearance of the property.

Are there any differences in the energy performance of timber, uPVC and metal windows?

The thermal properties of windows are dependent on the overall build quality and the materials used. Timber, metal and uPVC windows can all perform well. The best indicator of their performance is the BFRC rating.

Is triple glazing more energy efficient than double glazing?

Triple glazed windows are more common in Europe, although these are of a different style to those found in the UK. A triple glazed window does not necessarily have a better U-value (or BFRC energy rating) than a double glazed window, as all the different energy saving elements of a window contribute to the energy rating. Also, these units can be heavier, with smaller openings.

Customer Key Questions

Some key questions to ask when choosing and installing new windows:

- What is the energy rating?
- What are maintenance requirements for frames?
- Is the installer a member of an industry trade association e.g. Glass and Glazing Federation, British Woodworking Federation, British Plastics Federation, Council for Aluminium in Buildings or Steel Window Association?
- Does the window comply with current building regulations?
- Does the customer need to get building control permission from council?
- Is the property in a conservation area?

Background

- FENSA estimate that there are approximately **2 million window replacements per year** across the UK.
- Across the UK, it is estimated that **17%** households have no double-glazing.
- Windows were **typically single glazed in the past**. When energy efficiency requirements came into force through building regulations, double glazing was introduced. Double glazed units came to market in the late 1970s, and legislation for replacement units was introduced in 2002 (see Compliance).
- **Heat is lost** through single glazing around **twice as fast** as through standard double glazing. Heat loss is slowed down by having two sheets of glass and an air gap between them.
- The **heat loss elements** of a window unit incorporate the glass itself, the gas filling and distance between the panes, the glass pane spacers and the frame type. These all affect heat loss through the window and contribute to the BFRC rating.

Different Technologies

Energy Saving Recommended criteria applies to windows with a BFRC rating of C or above. Windows are given an energy rating under the BFRC (British Fenestration Rating Council). This measures different heat loss elements of a window – e.g. frame and glass – as a whole, including:

- Thermal Transmittance – how quickly heat is transferred out of the window.
- Solar Factor – how well solar heat is kept out.
- Air Leakage – how well sealed the unit is.

Further information on energy ratings can be found www.bfrc.org.uk

What affects a window's energy efficiency?

● Glass

Usually found in 2 layers with a gap of around 16mm. Triple is available and will generally have a higher efficiency (however, you do not necessarily have to use triple glazing to maximise the energy efficiency of a window).

Low emissivity (Low e) glass – has an unnoticeable coating (a thin layer of metal oxide) on the outer side of the internal pane. Whilst this does reduce 'solar gain', it also minimises heat loss from the home.

● Gas filling

The gas filling between the panes of glass is usually air, although more efficient and thus higher rated windows will be filled with argon and sometimes xenon or krypton. The gas slows down the transfer of heat through the gap.

● Pane spacers

These separate the panes of glass around the inside edge, often made from aluminium – a good conductor of heat. Better insulating spacer bars contain little or no metal and are also known as 'warm edge'.

● Frame materials

Wooden frames have a low environmental impact, but will require maintenance. Recommended in conservation areas.

Aluminium or Steel frames have a long life and slim frames. They can be recycled.

uPVC is the most common frame type, and has a long life. They can be recycled.

Composite frames have an inner timber frame with an aluminium or plastic protective layer on all external surfaces.

Further glazing technologies

Special window types

These are available as double glazed units and can be used, for example, in period properties.

- Casement.
- Tilt and Turn.
- Vertical Sliding Sash.

Trickle vents

These are found at the top of a window, and allow controlled ventilation. They can help reduce/prevent condensation.

Secondary glazing

This is not as effective as double glazing, due to a lack of air tightness. It will reduce heat loss, but should generally not be considered unless double glazing units cannot be fitted. Some typical savings are shown below:

		Secondary Glazing		
		2 bed Flat	Mid terraced	Semi-detached / Detached
Gas	£ / yr	£45	£70	£100
	kgCO ₂ /yr	240	385	545
Electric	£ / yr	£65	£105	£150
	kgCO ₂ /yr	595	950	1,340
Oil	£ / yr	£65	£105	£150
	kgCO ₂ /yr	285	460	655
LPG	£ / yr	£65	£105	£150
	kgCO ₂ /yr	260	420	595
Solid	£ / yr	£50	£80	£115
	kgCO ₂ /yr	590	950	1375

Glazed doors

For patio doors which are mainly glazed, ensuring a quality fitting reduces chances of them dropping and opening large gaps where draughts can enter and heat can escape.

There is no energy rating for doors currently, instead the U value is used. For best practice, recommend a U value of 1 for a solid door or 1.5 for a half glazed door.

Compliance

Replacement windows must comply with the minimum standard of building regulations of energy rating E (in Scotland D rating; in Ireland E rating). New windows – e.g. in extensions - must be at least energy rating D.

It is recommended that new or replacement windows are installed by a FENSA registered installer or one of the other two Competent Person window registration schemes (British Standards Institution BSI or CERTASS Limited). However, if this is to be installed by the homeowner building control must be notified before installation begins.

If you live in a listed building or conservation area there may be different and stricter regulations, always check with your local planning office.

For more information the householder should contact their local council building control officer.

Finding the Product

Registered installers and can be found here:

http://www.fensa.co.uk/asp/member_search.asp

A list of windows by their energy rating and frame material can be found here:

<http://www.bfrc.org/defaultDirectories.aspx>

Industry Developments

Solar Integrated – This is an emerging technology. PV panels are laminated between two layers of glass. It can be used as shading or as conventional glazing.

Energy Ratings for Doors – these are similar to the window scheme and have been launched in Spring 2008. Further information can be found at www.bfrc.org.uk

Note: See draught proofing fact sheet for advice on stopping draughts through letter boxes and locks, around doors and non-uPVC windows.

EPC Adviser

Using the information in your EPC

The government has created an internet-based tool that will help you to check out potential energy improvement measures for your home. This tool, called EPC Adviser, uses the information contained in your Energy Performance Certificate (EPC).

The EPC is the energy rating assessment of a property, giving it an A-G rating similar to the energy efficiency information available with most household appliances. It provides a measure of the property's energy efficiency and its impact on the environment and suggests ways in which this impact can be reduced.

The EPC Adviser uses the data that was collected at the time of inspection by the energy assessor and you, as the home owner, can now find out what improvements you could make to your home. You can also get a clear reading of what potential energy, money and CO₂ savings these improvements could make.

How do I access EPC Adviser?

In order to use the EPC Adviser you will need access to the internet and the Report Reference Number of your EPC, which you will find at the top of your EPC. Log onto the EPC Adviser website at: <http://bit.ly/i5LFrg>

Energy Performance Certificate

National Energy Services, Davy Avenue, Knowlhill, MILTON KEYNES, MK5 8NA

Dwelling type: Detached house Reference number: [Redacted]

Date of assessment: 02 April 2012 Type of assessment: RdSAP existing dwelling

Date of certificate: 04 April 2012 Total floor area: 83 m²

Use this document to:

- Compare current ratings of properties to see which properties are more energy efficient
- Find out how you can save energy and money by installing improvement measures

Estimated energy costs of dwelling for 3 years: £2,958

Over 3 years you could save: £1,353

Estimated energy costs of this home

Category	Current costs	Potential costs	Potential future savings
Lighting	£162 over 3 years	£165 over 3 years	
Heating	£2,154 over 3 years	£1,242 over 3 years	
Hot Water	£542 over 3 years	£198 over 3 years	
Totals	£2,858	£1,505	You could save £1,353 over 3 years

Energy Efficiency Rating

Very energy efficient - lower rating costs (85-91) **A**

Energy efficient (81-84) **B**

Decent (69-78) **C**

Needs improvement (55-68) **D**

Needs significant improvement (45-54) **E**

Needs urgent improvement (35-44) **F**

Very energy inefficient - higher rating costs (1-34) **G**

Top actions you can take to improve your energy efficiency

Recommended measures	Cost	Payback period
1 Floor insulation	£500 - £1,200	3-10 years
2 Add additional 80 mm jacket to hot water cylinder	£15 - £30	1-2 years
3 Draught proofing	£80 - £120	2-3 years

The EPC Adviser filters out improvement measures that might be inappropriate for your particular situation, for example upgrading an existing condensing gas boiler that is still in good working order.

You can use the EPC Adviser to look at a single improvement or you can construct a list of measures to improve a particular aspect, for example the improvement of insulation levels of your home. Combinations can be mixed and matched as needed and the EPC Adviser can be used any number of times. Just enter your Report Reference Number and check out the different options.

Try out EPC Adviser

The EPC Adviser is easy to use and allows you to choose from a long list of improvements that you might like to consider. Once you have entered the Report Reference Number, the website immediately offers a list of energy improvement measures that could potentially be added to your home. These range from adding draught proofing, switching to a biomass boiler, upgrading your heating controls to changing your light bulbs to CFLs or LEDs.

The savings associated with certain measures may look different depending upon the combination of measures selected. For example, the savings with a boiler upgrade may be different if you improve the insulation of the dwelling along with boiler upgrade. This is expected as the heating requirements will be different when you insulate the dwelling and hence the savings associated with boiler upgrade will be different.

Directgov Cymraeg | English

EPC Adviser

Save money and cut your carbon footprint at home

The EPC Adviser shows you what you can do to make your home more energy-efficient and calculates how much money and carbon you can save.

To get started, enter the reference number printed on your EPC:
(Your reference number is the 24 characters printed on your EPC or provided by your assessor)

Help with your reference number

1. Enter your reference number:

2. Enter the numbers below:

Next →

Energy Performance Certificate **SAP**

National Energy Services, Davy Avenue, Knowlhill, MILTON KEYNES, MK5 8NA

Dwelling type: Detached house Reference number: **XXXX XXXX XXXX**

Date of assessment: 02 April 2012 Type of assessment: RdSAP, existing dwelling

Date of certificate: 04 April 2012 Total floor area: 83 m²

If you have ever wondered if installing a Ground Source Heat Pump or switching to a biomass boiler would help save the environment, then the EPC Adviser can help you find out. Once you have selected a set of measures and the EPC Adviser has disregarded any invalid combinations, it creates a summary table showing the amount of savings you could achieve.

The EPC Adviser can also calculate Feed In Tariffs (FIT) for solar photovoltaic (PV) panels, illustrating how much installing a particular measure could benefit you.

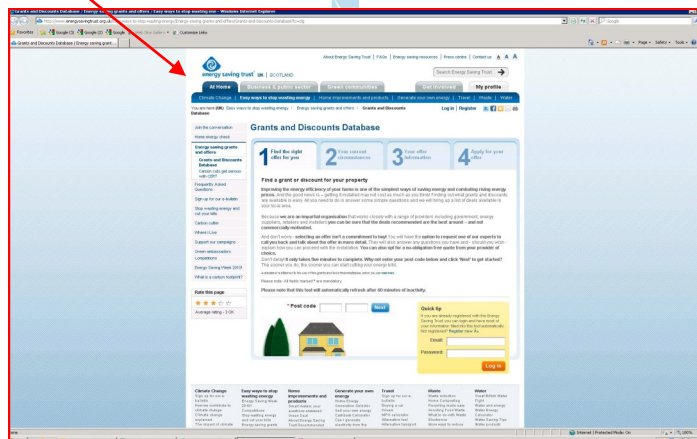
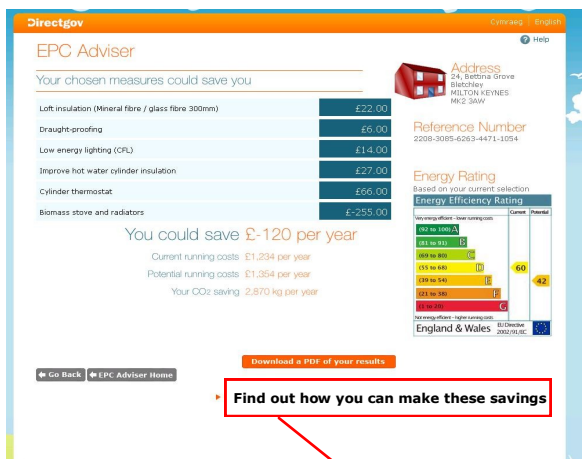
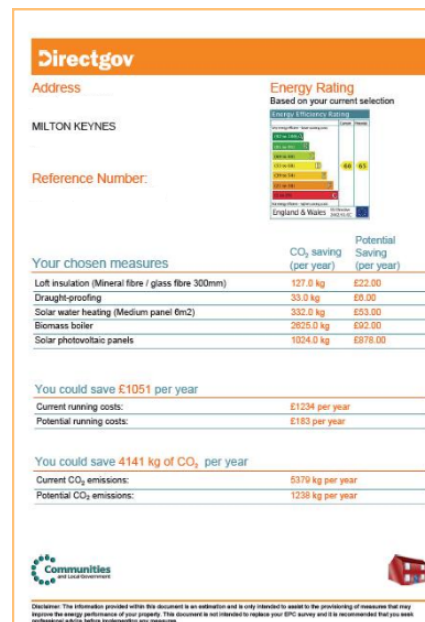
Unlike the EPC which only takes into account costs for heating, hot water and lighting, the EPC Adviser includes estimated costs for appliances and cooking based on standard occupancy* figures. In this way the costs and savings listed more accurately match your real monthly household bills.

The EPC Adviser creates a report that you can download, print and keep for future reference. The report gives an indication of the potential impact on the EPC Energy Efficiency rating your property can achieve after any improvements have been made.

**Standard Occupancy is used to calculate how much energy is needed to heat a home to a specific heating pattern. It assumes that the occupier heats the home for 2 hours in the morning and 7 hours at night on weekdays, and for 16 hours a day at weekends, to set temperatures of 21°C in the living room and 18°C elsewhere.*

The government is keen to make it easier for homeowners to implement changes to the energy efficiency of their homes and plans to link the EPC Adviser website to the government's Green Deal website. This will allow you, once you have identified a particular package of improvements for your home, to find products and installers associated with the Green Deal.**

***The proposed Green Deal will establish a framework to enable private firms to offer consumers energy efficiency improvements to their homes at no upfront costs and recoup payments through a charge in instalments on the energy bill.*



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Useful websites

<http://epcadviser.direct.gov.uk/epcadviser.html>

<http://www.energysavingtrust.org.uk/Take-action/Grants-and-savings/Green-Deal>

<http://www.decc.gov.uk>

National Energy Centre, Davy Avenue
Knowlhill, Milton Keynes, MK5 8NA
tel: 01908 672787 fax: 01908 662296
Email: registration@nesltd.co.uk

www.nesltd.co.uk



Energy Performance Certificates for Homes...Explained

What is an Energy Performance Certificate?

The Energy Performance Certificate (EPC) is a European Union initiative as part of the drive to improve energy efficiency across the EU member countries. An EPC provides two key pieces of information:

- The energy efficiency of a property
- The environmental impact of a property

The EPC provides a rating of a property's energy efficiency and displays this as a graph, similar to those found on kitchen appliances.

Ratings come on a scale of A-G, with A being the best rating. This means that home owners and occupiers can compare the energy efficiency of different properties in a similar way to comparing the energy performance of fridges or freezers.

The EPC also includes a Recommendation Report which lists the potential improvements that can be made to a property in order to:

- Cut fuel bills
- Improve energy efficiency
- Help cut carbon emissions

The EPC is split into the following four sections:

1. Energy Efficiency rating and potential savings
2. A summary of energy performance features
3. The recommendations for improving the energy efficiency
4. Details of the properties environmental impact



When is an EPC required?

Since 2009, as part of the Energy Performance of Buildings Directive (EPBD) issued by the EU, all buildings in the UK that are constructed, sold or offered for rent need an EPC.

- An EPC is required whenever a property is marketed
- The EPC is valid for 10 years
- This applies to all sellers hoping to sell their property and to landlords offering a property for rent.

How is an EPC produced?

An EPC can only be produced by a Domestic Energy Assessor (DEA) or a surveyor who is a member of an approved Government Accreditation scheme. The DEA or surveyor will visit the property to determine the energy related features. These are then entered into a computer program which has a calculation model developed by the government and is known as Reduced Data Standard Assessment Procedure (RdSAP).

RdSAP is a cost-based rating system which uses pre-determined assumptions. It does not look at the appliances, but rather the performance of the building itself in areas such as heating and lighting. In other words, it provides an energy efficiency rating for the property itself rather than an occupancy rating.

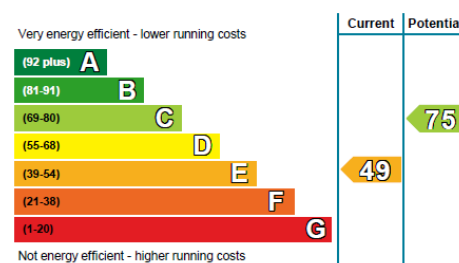
When collecting the RdSAP data the DEA will need to determine the following:

- Property type
- Age of property
- Type of construction
- Property dimensions
- Room and water heating systems
- Insulation levels
- Windows and glazing types
- Types of lighting

This information will be entered into the calculation software and an EPC will be produced.

Energy Efficiency rating

Page 1 of the EPC displays the Energy Efficiency Rating as shown in the diagram below.



The performance of a property is rated in terms of the energy used per square metre of floor area; the energy efficiency based on fuel costs. The numbered arrows show the current rating based on the existing energy performance of the property and the potential rating if the suggested improvements are implemented.


Estimated energy use

The estimated energy costs are listed in in the EPC (see on the right) showing the estimated energy costs of the dwelling over a period of three years as well as the potential costs and savings if the recommendations are installed. The figures in the table are based on standardised assumptions about occupancy, heating patterns, but they are based on weather data pertaining to the postcode region. This means that the figures displayed will be different to the **actual** fuel bills.

The reasons for this are:

- RdSAP uses a standard heating pattern of 9 hours each weekday and 16 hours a day at the weekend. It further assumes that the main living area is heated at 21°C and the remainder of the dwelling at 18°C. This may be different to the actual heating pattern of the person living there, but it enables properties to be compared on a like for like basis.
- The model assumes that the number of occupants is proportional to the floor area of the dwelling and hot water usage is calculated using the same proportions. Therefore, if a single person is living in a five-bedroom house, the energy used for hot water in the model and displayed on the EPC will be higher than the actual usage. This procedure allows all properties to be compared on an equal basis.
- If the property has two space heating systems (a main heating system such as a gas boiler with radiators) and a secondary or 'top-up' heating system (e.g., an open coal fire), the model assumes that up to 15% of the space heating is provided by the secondary system. The efficiency of the secondary system is likely to be much lower than that of the main system and will therefore push the energy costs up. It may be that the secondary system is rarely used and would not contribute to 15% of the space heating, but so as to compare properties fairly, these are the standard assumptions made in the model.
- In addition, these costs only account for heating, hot water and lighting, not for appliances or cooking.

Estimated energy costs of this home

	Current costs	Potential costs	Potential future savings
Lighting	£375 over 3 years	£207 over 3 years	
Heating	£4,443 over 3 years	£2,067 over 3 years	
Hot water	£549 over 3 years	£330 over 3 years	
Totals	£5,367	£2,604	

Summary of energy performance related features

The summary of energy performance related features section of the EPC shows the most crucial energy related elements of the property in the form of a table. The table is broken down into the different elements of the property such as:

- Wall construction type
- Roof construction type
- Floor construction type
- Windows and glazing
- Main Heating system present
- Main heating controls
- Secondary heating system
- Water heating
- Low energy lighting

The table then shows how each of the different elements of the property are performing in terms of their current energy efficiency and environmental performance. The descriptions provided are based on the data that has been collected specific to the property's thermal and heating elements. These descriptions are shown as stars where 1 star means least efficient and 5 stars means most efficient.

Some of the descriptions could lead to concern for the homeowner and it is important to understand the reasoning behind these.

For example, the energy efficiency of the hot water system may be given a single star rating because of the cost associated with electricity compared to the cost of gas.

The star rating does not reflect the physical condition or quality of the system.

The energy use is displayed in the EPC underneath the table showing the homes's energy performance related features (see below) and includes the energy consumed in producing and delivering the fuel to the dwelling, and thus will be greater than the energy actually used in the dwelling.

Recommendations

The recommendations section lists measures that can improve the energy efficiency and therefore the SAP rating of the property. The measures are assessed cumulatively in a predetermined order and are only included if they make a measurable change to the energy efficiency of the building.

The recommendations section also displays typical savings per year and shows the energy efficiency ratings as a result of these improvements.

Summary of this home's energy performance related features

Element	Description	Energy Efficiency
Walls	Solid brick, as built, no insulation (assumed)	★☆☆☆☆
Roof	Pitched, 150 mm loft insulation	★★★★☆
	Pitched, no insulation (assumed)	★☆☆☆☆
	Roof room(s), no insulation (assumed)	★☆☆☆☆
Floor	Suspended, no insulation (assumed)	—
	Solid, no insulation (assumed)	—
Windows	Some double glazing	★☆☆☆☆
Main heating	Boiler and radiators, mains gas	★★★★☆
Main heating controls	Programmer, room thermostat and TRVs	★★★★☆
Secondary heating	Room heaters, coal	—
Hot water	From main system	★★★★☆
Lighting	Low energy lighting in 36% of fixed outlets	★★★★☆

Current primary energy use per square metre of floor area: 333 kWh/m² per year



Green Deal









The Green Deal is a government initiative introduced in Autumn 2012. It enables homeowners to install energy saving measures into their property with no upfront costs. These costs will be repaid through the electricity bill at a rate less than, or equal to the savings achieved by installing the measure. The Green Deal plan will remain with the property rather than with the homeowner.

The list of recommendations advises the measures which are likely to be available to the property through the Green Deal. Recommendations indicated with a green tick are likely to be fully financed through the scheme, improvement measures with an orange tick are eligible but may require some upfront payment.

Recommendations

The measures below will improve the energy performance of your dwelling. The performance ratings after improvements listed below are cumulative; that is, they assume the improvements have been installed in the order that they appear in the table. Further information about the recommended measures and other simple actions you could take today to save money is available at www.direct.gov.uk/savingenergy. Before installing measures, you should make sure you have secured the appropriate permissions, where necessary. Such permissions might include permission from your landlord (if you are a tenant) or approval under Building Regulations for certain types of work.

Measures with a green tick  are likely to be fully financed through the Green Deal, when the scheme launches, since the cost of the measures should be covered by the energy they save. Additional support may be available for homes where solid wall insulation is recommended. If you want to take up measures with an orange tick , be aware you may need to contribute some payment up-front.

Recommended measures	Indicative cost	Typical savings per year	Rating after improvement	Green Deal finance
Internal or external wall insulation	£4,000 - £14,000	£203	E50	
Floor insulation	£800 - £1,200	£47	E52	
Increase hot water cylinder insulation	£15 - £30	£20	E52	
Draught proofing	£80 - £120	£57	E54	
Low energy lighting for all fixed outlets	£35	£35	D55	
Replace boiler with new condensing boiler	£2,200 - £3,000	£144	D59	
Solar water heating	£4,000 - £6,000	£33	D60	
Replace single glazed windows with low-E double glazing	£3,300 - £6,500	£93	D63	
Solar photovoltaic panels, 2.5 kWp	£9,000 - £14,000	£219	C70	

Alternative measures

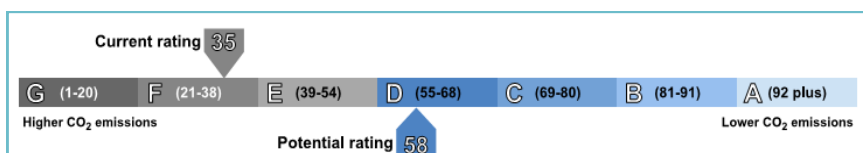
There are alternative measures below which you could also consider for your home.

- Micro CHP

Environmental Impact Rating

The environmental impact rating is displayed as a linear graph on page 4 of the EPC. This is based on CO₂ emissions per metres square for the property.

The numbered arrows show the current rating based on the existing energy performance of the property and the potential rating if the suggested improvements are implemented.



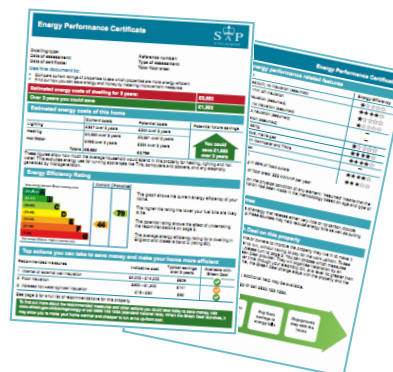
Further information

Further information on EPCs and the full EPBD legislation can be found at:

www.gov.uk/buy-sell-your-home/energy-performance-certificates

www.gov.scot/Topics/Built-Environment/Building/Building-standards/publications/pubepc

www.energysavingtrust.org.uk/domestic/energy-performance-certificates



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Gas in the Home



Many people heat their homes and cook using mains gas and thankfully there are only a few accidents involving gas each year. However, while fortunately rare, in 2009-10, there were 223 incidents according to the national independent watchdog for work-related health, safety and illness the Health and Safety Executive (HSE). In many cases these accidents result in fatalities and for this reason the HSE takes issues relating to gas very seriously. There are two specific dangers associated with using gas in the home:

- Explosion and fire, which actually account for very few gas related incidences
- Carbon monoxide poisoning, which accounts for approximately 20 deaths each year

What is carbon monoxide and why is it a problem?

Carbon monoxide is a deadly poisonous gas, because when it enters the body, it prevents the blood from carrying oxygen to cells, tissues, and organs. The problem with carbon monoxide is that it is colourless, odourless and tasteless. Excess carbon monoxide is produced when normally safe-to-use carbon-based fuels including gas, oil, wood and coal do not burn properly.

Because you cannot see it, taste it or smell it, carbon monoxide can kill quickly without warning. Sadly, each year there are news reports recounting such tragedies. People die from carbon monoxide poisoning which is caused by appliances and flues that have not been properly installed, maintained or that are poorly ventilated.

Even if the level of carbon monoxide is too low to actually kill, it can still cause serious harm to health if breathed in over a long period. In extreme cases prolonged exposure can result in paralysis and brain damage.

How to keep safe

The HSE recommends that all gas appliances, including gas boilers, ovens, hobs and gas fires, should be regularly serviced in accordance with the manufacturer's guidelines at least once a year. Testing should be undertaken by a Gas Safe Registered Engineer.

A free gas safety check may apply to home owners on means tested benefits who:

- Are of pensionable age, disabled or chronically sick and either live alone or with others who are all of pensionable age, disabled, chronically sick or under 18
- Are living with others where at least one is under 5 years old



- Have not had a gas safety check carried out at the premises in the last 12 months
- Do not occupy premises where a landlord is responsible for arranging a check under regulations made under the Health and Safety at Work Act

You should contact your gas supplier for more information and to find out if you are eligible. They may be able to provide you with a free of charge gas safety check upon request.

You could consider installing an audible carbon monoxide alarm. They are cheap, easy to fit and are a good way to ensure you're immediately alerted to any carbon monoxide in your home.



Gas and rented accommodation

Landlords have specific responsibility when it comes to gas safety and they have legal obligations in relation to any gas supply and appliances at their rented property. Under the Gas Regulations the landlords must:

- Repair and maintain gas pipe work, flues and appliances so that they are kept in a good condition
- Carry out a gas safety check every year on each appliance to be done by a Gas Safe Register approved installer (you must give your tenants a copy of the gas safety record within 28 days of it being carried out or before they move in)

The landlord must also keep proper records. As a minimum, the record of a gas safety check must contain:

- A description of the location of each appliance or flue checked
- The name, registration number and signature of the individual carrying out the check
- The date on which the appliance or flue was checked
- The address of the property at which the appliance or flue is installed
- The name and address of the landlord (or his agent where appropriate)
- Any defect identified and any remedial action taken
- A statement confirming that the safety check completed complies with the requirements of the Gas Safety (Installation and Use) Regulations 1998

You are also obliged to show your tenants how they can turn off the gas supply in the event of a gas leak.

Gas Safe and Gas Safe Registered Engineer

The Gas Safe Register is the official gas registration body for the UK, Isle of Man and Guernsey appointed by the relevant Health and Safety Authority for each area. It is run by Capita Gas Registration which ensures that all their members are appropriately qualified to work with gas. The sole focus of the register is on improving and maintaining gas safety to the highest standards. There are around 120,000 gas engineers on the register.

Gas Safe Register replaced CORGI as the gas registration body in the UK and the Isle of Man on 1 April 2009 and Northern Ireland and Guernsey on 1 April 2010.



Remember that before you let your gas engineer into your home to work on your gas appliances you should check their Gas Safe ID card. If they don't show this to you when they turn up at your door then don't be afraid to ask to see it. You can also check that your engineer is Gas Safe registered by calling the Gas Safe Register on 0800 408 5500 or using their 'check an engineer service' online.

Buying a new home

In most cases, if you commission an independent surveyor to undertake an inspection and to report on the condition of a property prior to purchase, he/she will not be able to comment in detail on the gas appliances. This is because:

- The inspection will be visual only (the property belongs to the seller

and an invasive inspection would not be tolerated)

- The gas appliances are rarely running at the time of the inspection and if they are, it is unlikely that the surveyor will be in the property long enough to get a clear impression of how well they are running
- The surveyor is unlikely to be a Gas Safe Registered Engineer.

For this reason it is sensible if you are selling a property to have a gas safety report on all the appliances you intend to leave in order to show copies to the potential purchasers, their surveyor and their conveyancer/solicitor.

If you are buying, ask the sellers to provide a gas safety report on the appliances and make sure the report is provided by a Gas Safe Registered Engineer.

Useful websites

www.hse.gov.uk/gas/index.htm

www.gassaferegister.co.uk/

The image shows two overlapping document pages from the Health and Safety Executive (HSE). The top page is titled 'Landlords' and is a guide to landlords' duties under the Gas Safety (Installation and Use) Regulations 1998. It includes a warning that every year about 14 people die from carbon monoxide poisoning caused by gas appliances and flues which have not been properly installed or maintained. The bottom page is titled 'Gas appliances' and is a guide for tenants. It includes a warning that every year about 14 people die from carbon monoxide poisoning caused by gas appliances and flues which have not been properly installed or maintained. It also lists symptoms of carbon monoxide poisoning and provides advice on what to do if you suspect a problem.

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Guttering

Rainwater goods, i.e. guttering and down pipes are often overlooked because, on the face of it, what they do is so straightforward —taking rainwater from the roof and disposing of it somewhere. But guttering and down pipes play an important role and serious problems can occur when they are badly fitted or poorly maintained.

What is the purpose of guttering?

The purpose of guttering is to prevent the rain which falls on the roof from wetting the wall surfaces and the ground too close to the building. The need to shed rainwater away from the walls is not new. Our historic buildings, such as medieval churches and cathedrals, are often admired for their decorative gargoyles and impressive water spouts, simple yet effective ways of deflecting water away from the building.

Water is the main agent of decay in buildings. Blocked, cracked or badly designed rainwater goods can allow water into the main fabric, i.e. the walls and roofs. If water does run down the walls, the resulting problems will depend on the quality of the construction and the general condition of the wall. If it was well built and the brickwork of modern construction quality it is quite likely that the wall will suffer no more than algae or moss growth. However, if the walls are not so well constructed or the materials have deteriorated over time, then water can soak into the walls and the resulting damp can encourage timber decay through fungal attack and insect infestation.

In the winter months water that has soaked into the surface of masonry can freeze and cause brick and stone work to crumble, particularly where the brickwork is older, softer and more porous, and where the mortar is 'weak' because it is of the incorrect mix or is old.



If the water washes into the soil too close to the building this can have the same result as a broken drain under the soil, with the fine particles in the soil being washed away leaving 'voids' (or gaps in the soil) which can collapse when the soil dries out. In severe cases, the bearing capacity of the ground will be reduced and the property could be in danger of subsidence.

The water collected by the guttering is directed to an area where it can do no damage, either to a soak-away or storm drain.



In older buildings, it is allowed to enter the 'foul sewer', but this is no longer permitted in new dwellings. Guttering and down pipes are therefore an important element to a property. However, not all properties need guttering. Some buildings, notably thatched cottages, are designed to function without guttering.

Where this is the case a broad 'roof overhang' (called the 'eave' is designed so that the roof edges are a good distance from the face of the walls. The depth of the eaves is normally at least 300 mm.



What prevents gutters from working properly?

Gutters at roof level intercept water as it runs off the roof slopes and channels it away from the walls. Where gutters fail to do this it can usually be attributed to the following:

- Inappropriate sizing — the gutter is too small to cope with the amount of water shed by the roof in heavy rain
- Leaves in autumn, which can quickly block gutters
- Stray rubbish, which can vary from children's balls, beer cans and plastic bags to wildlife such as dead birds or bird nests which cause blockages
- Fragments of tile, slate, fallen stonework and other mineral matter can 'silt' up guttering

- Self-seeded plants (e.g. *Buddleia*)
- Natural wear and tear over time (corrosion if the rainwater goods are cast iron or brittleness if they are plastic)
- Damage from repair work (ladders etc.)
- Poor installation

Types of guttering

The main styles of guttering materials are:

- PVC
 - Cast-iron
 - Pressed metal (normally galvanized steel)
 - Extruded metal (normally aluminium)
- Asbestos cement

It is also possible to find cement gutters on some post WWII houses, and lead guttering, usually associated with historic buildings.

Metal or plastic?

More recently, plastic in the form of PVC has become a popular material for guttering and down pipes. The major advantage of PVC is that it is lightweight and can be installed by one person, although two are preferable. (The weight of cast iron or galvanised guttering is such that it precludes a one-man job). Because it is lightweight, the lengths of a piece of guttering can be longer than cast iron and therefore requires fewer joints and supports. Installation is relatively quick and the material is comparatively cheap. However, PVC guttering does present some problems.



Firstly there are environmental concerns about the material itself. Secondly, a major disadvantage of the PVC guttering is that the material does not have a very long life span. It is affected by ultra-violet light and will fade and can become brittle with age. Also, plastic rainwater goods are not inherently rigid and can be affected by thermal movement, thus reducing their effectiveness. The PVC does not take paint very easily and, therefore, the choice of colours is limited.



Cast iron

This was the most common material for guttering and down pipes for older houses, but in many cases it may have since been replaced. It is strong, durable and relatively easily maintained. Cast iron gutters can be of varying shapes but the most common profiles are 'ogee' sections, half-round and hexagonal profiles. Cast iron gutters should be painted on both surfaces, even though the inner surface is less likely to receive the paint well.

The most frequent problems associated with cast iron gutters result from joint failure (where the gutter lengths join one another or the down pipes), and impact damage (for instance where vehicles hit unprotected down pipes or ladders are banged against the gutters). Sometimes, maintenance can cause the damage if, for example, the bolts securing a joint are rusted and have been incorrectly removed; also the gutter itself can be cracked or broken.

If the property is listed or in a conservation area and the rainwater goods need replacing or repairing, then often the local planning office will demand that the same style is retained for aesthetic reasons. Finding replacement cast iron parts is very difficult. New replacement cast iron can be obtained from specialist foundries but is expensive.

Sometimes replacement parts can be obtained from demolition sites but these may be damaged and must be very carefully inspected. (Some plastic guttering systems offer 'imitation cast iron' rainwater goods that may be acceptable to local planning authorities).

Another point is the cost of installation, as the lengths are so heavy that one person cannot manage them on their own. Replacement is awkward and further damage can be done to remaining parts as attempts are made to release well-rusted bolts.

Pressed metal

The most common defect of pressed metal guttering is simply age. The zinc in the galvanised coating oxidises over the years and eventually completely disappears. This exposes the metal to normal weathering and oxidation (rusting) and eventually the deterioration is complete and the gutter needs to be replaced.

This type of guttering has been used for many years and was always more popular than cast iron on the simple basis of cost. Like cast-iron guttering, pressed steel needs to be painted on both the inside and the outside.

Some modern steel guttering systems do offer significant advantages over PVC systems. PVC tends to discolour and become brittle with age. It is not inherently rigid (therefore needs a large number of fixings) and can be affected by heat and cold —expanding and contracting accordingly.

Steel guttering systems are rigid and durable. They can easily be recycled without any loss of quality and 50% of all world steel comes from recycled sources. In comparison with other alternatives to PVC guttering, such as cast iron or aluminium, steel guttering can be competitively priced and is relatively lightweight and consequently not difficult to install.



Concrete and asbestos

With the shortage of steel in the immediate years after WWII, other materials became popular for guttering and down pipes and on houses from this period you may find concrete gutters (known as 'Finlock' gutters) or asbestos gutters, where the asbestos is used as a bonded material in cement.

Asbestos cement guttering is durable, virtually everlasting, never rusts and requires little maintenance. It will not accept paint easily and sometimes therefore was not painted. Cement 'Finlock' gutters are slightly different. Instead of being 'attached' to the property they are an integral building component, capping the cavity of the outer brickwork and kept in place by the weight of the roof. Unfortunately, there can be severe maintenance problems relating to these gutters. The points where the concrete gutters meet/about each other were commonly 'made good' with a mixture of bitumen and mortar. Over the years this can crack and split and moisture then seeps through the gap. A tell-tail sign is the presence of damp patches at the junction of the top of the wall and the ceiling; particularly if it is a regularly spaced pattern of patches.

With Finlock gutters the least expensive method of repair is to paint the interior of the guttering with a thick bitumastic liner but it is never very long lasting and problems invariably recur. Alternatively, the gutter can be lined with reinforced fibreglass felt which can also be taken up to the roof beneath the first few rows of tiles. This has slightly better longevity but still has a limited life. It is sometimes possible to install modern gutter systems but because the gutter is integral with the building usually specialist firms are needed to maintain or repair them.



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email: registration@nesltd.co.uk



Aluminium

Aluminium guttering is a modern innovation and is generally durable and corrosion resistant. As with PVC, aluminium is lightweight, and it can be 'shaped' more easily and is often used on older properties where there is the need to replicate the shape and look of the original cast iron gutters (for aesthetic or planning reasons). Aluminium gutters can be produced in long single lengths, reducing the number of joints and therefore the risk of leakage due to joint failure.

The aluminium guttering may be left 'unfinished' or may be painted or powder coated, therefore a wide variety of finishes and colours is available from different manufacturers. If unfinished, the aluminium will slowly oxidize over time to a dull grey colour. The oxide then protects the material from further corrosion. If a finish is applied then the manufacturers maintenance instructions will have to be followed in order to maintain the finish; for example harsh abrasives may remove some paint or powder coatings.

Gutter maintenance

Gutters should be:

- Regularly cleaned out
- Down pipes should be checked for blockages
- Brackets and fixings should be inspected to ensure they are secure
- Where appropriate and in line with manufacturers instructions some coated finishes may need regular washing using a warm mild detergent (non-toxic) solution

Gutter repair

All gutters deteriorate in time but the damage may differ depending on the material and the level of maintenance over the years. Replacement costs also vary depending on whether the replacement is to be 'like for like' or a different material is to be used.

An important feature for all guttering is the actual support for the gutters and the down pipes: the fixtures holding the guttering to the roof or wall.

Weakening of the supports/brackets can be as serious as damage to the gutters and pipes themselves. Also, even if the supports themselves are sound, the timbers to which they are screwed can often be far too rotten to do the job properly so these must also be periodically inspected.

When carrying out repairs, it should also be noted that from the mid 1970s the lowest part of the roofing under-felt (which sits behind the tiles/slates etc. but over the timber framework) was designed to drape into the gutter to help facilitate water run off if water does get under the top covering. If this has disintegrated it should also be repaired at the same time as the guttering, because if not corrected there can be problems with dampness at high levels in upper rooms.

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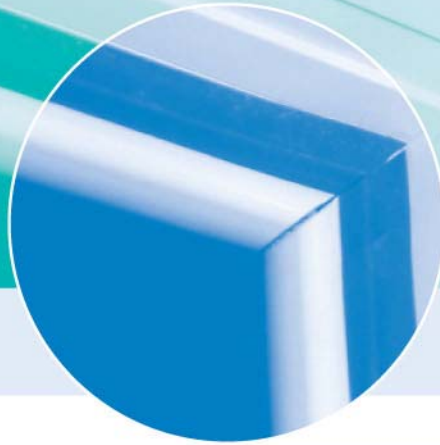
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National Energy Services
The home of NHER & SAVA

www.myhomeconditionsurvey.co.uk

Insulation around the Home



Key Points

- Draught proofing of windows and doors, and blocking gaps in floors and skirting boards, not only saves energy by reducing heat loss, but can also make the home more comfortable.
- If dwelling has a separate hot water tank, pipes should be lagged and hot water tank insulated if not already done so.
- Reflective radiator panels can be placed behind radiator on external walls.
- If renovation work is being carried out, this is a good time to consider floor insulation – although this can be done at any time.

Behaviours

The heating requirement for a well-insulated home will be less, and heating up and cooling down times for the home will change.

Encourage to also think about:

- Turning the thermostat down by 1 degree can reduce fuel bills by 10%.
- Are radiator valves (TRVs) being used correctly?

Further Information

- For further information on installed draughtproofing:
National Insulation Association (NIA)
Tel: 01525 383313
www.nationalinsulationassociation.org.uk
- For advisors: Energy Saving Trust GPG 224 'Improving airtightness in dwellings'.

Savings Potential

If everyone in the UK fully draught proofed their home, we could save over £200 million and over one million tonnes of CO₂ a year.

Typical savings for installing these measures in a gas-heated home:

		Further Insulation & Controlling Ventilation			
		Flat	Mid Terrace	Semi Detached	Detached
Draught proofing	£ / yr	£18	£25	£30	£34
	kgCO ₂ /yr	91 kg	128 kg	153 kg	176 kg
Hot water tank jacket	£ / yr	£38			
	kgCO ₂ /yr	195 kg			
Pipe Insulation	£ / yr	£12			
	kgCO ₂ /yr	64 kg			
Chimney Balloons	£ / yr	£17	£19	£20	£23
	kgCO ₂ /yr	80 kg	89 kg	93 kg	106 kg
Single radiator panel	£ / yr	around £1			
	kgCO ₂ /yr	4 kg			
Floor insulation	£ / yr	£22	£30	£48	£68
	kgCO ₂ /yr	113 kg	153 kg	247 kg	346 kg
Block gaps in skirting boards	£ / yr	£8	£21	£25	£33
	kgCO ₂ /yr	43 kg	110 kg	129 kg	169 kg

All figures are based on a gas heated property. For full energy saving assumptions, see the accompanying note.

Frequently Asked Questions

Where are the most common draughts found?

The most common place for draughts are around the frames of external wooden doors and windows. This is usually caused by either poorly fitting doors or windows, or seasonal variation. This is when the timber expands or contracts depending on the moisture content. Other areas where draughts can be found are between the frames of doors and windows and the brick work, also under the window sills. They are also found where services or waste pipes come through the walls of a building.

How can I tell if there is a draught?

The easiest way to identify a draught is by wetting the back of your hand and passing it over the area where you suspect a draught may be, there should be a noticeable difference in temperature when a draught is felt. Alternatively draughts can be identified by a professional who may use a smoke pencil or match.

Does draught proofing come with a guarantee?

If professionally installed all draught proofing installations should have a minimum 12 month guarantee.

How long will draught proofing measures last that I have installed?

Providing that the draught proofing materials are installed in accordance with manufacturers instructions it would be realistic to achieve a life expectancy of between 5 – 10 years. However, it would be recommended to look for products carrying the British Standard Kite Mark BS7386, as these products can last up to 20 years.

Is it worth insulating my floor?

Heat loss through the floor amounts to about 8%. If you have well insulated walls and loft, then floor insulation is worth considering. In most cases it is only the ground floor that is insulated as the heat loss from the other floors benefits the floors below. This may be easier and more cost effective when carrying out other floor refurbishments, although this depends on the type of house and floor.

Can any type of floor be insulated?

Yes, although the method used to insulate a solid floor will be different to a suspended, timber floor. Solid floors can have a layer of insulation applied on top of the existing floor. This will raise the floor level, so doors will need to be shortened.

Can I install a chimney balloon if I still use my fire occasionally?

Yes. If you occasionally use your fireplace to light a fire, the chimney balloon can simply be deflated and reinserted when you have finished. It is worth bearing in mind that an open fire is one of the least efficient ways to heat your home – and can be as low as 25% efficient.

Can radiator panels be used on internal walls?

Usually, radiators are found on the external wall. If there are radiators on internal walls, some savings can be made if the room is kept at a higher temperature than the rest of the house e.g. in the main living space, if this space has TRVs. However, these savings will be much smaller than those made on installing radiator panels on external walls, and so this is not recommended.

How can I tell if I should insulate my hot water tank?

Most cylinders fitted in the last 20 years will have been factory insulated. This is usually with sprayed polyurethane foam characterised by an 'orange peel' type surface finish. If this is marked with the relevant British Standard (BS1566, BS 699 or BS 3198) then its heat loss is probably acceptable. If the cylinder is either un-insulated or has a badly fitting old lagging jacket then a new lagging jacket is always a first priority, as payback times are short.

What is primary pipework?

This is the pipework which runs between the boiler and the hot water tank/cylinder. Insulating this stretch of pipework can lead to significant energy, financial and carbon dioxide savings.

Key Customer Questions

Some key questions to ask an installer when improving the air tightness of a dwelling:

- Is the installer of draughtproofing recommended by the National Insulation Association (NIA)?
- Can the installer explain and confirm how they have left and/or made appropriate provision for necessary ventilation? This is very important in gas-heated dwellings

Background

Whilst ventilation in the home is essential, controlling unwanted ventilation with draught proofing, blocking of gaps in floors and the blocking of unused chimneys will both improve comfort levels, and save energy. The improvement in comfort levels may also lead to further energy savings - as householders feel warmer due to the lack of cold draughts, they may be less likely to boost their heating or turn their thermostat up.

Whilst 60% of the UK's homes have good levels of draught proofing*, there are still many homes with an insufficient amount.

There are also other opportunities to insulate the home, once the walls and loft space or roof have been considered. Also, where appropriate, hot water tank and pipe insulation should be recommended.

*80% or more draughtproofing.

Different Technologies - Unwanted Ventilation

Adequate ventilation is important in all dwellings, but vital so if there are solid fuel fires, gas fires or a boiler with an open flue. This is in order to maintain the safety of the home - for example, by minimising the risks of the build-up of the poisonous gas carbon monoxide gas emitted from a faulty boiler.

Installing trickle vents in windows and extractor fans in kitchens and bathrooms provides controlled ventilation.

Common air leakage paths from the home	
Underfloor ventilator grilles.	Service penetrations through ceilings.
Gaps in and around suspended timber floors.	Vents penetrating the ceiling/roof.
Leaky windows or doors.	Bathroom wall vent or extract fan.
Pathways through floor/ceiling voids into cavity walls and then to the outside.	Gaps around bathroom waste pipes.
Gaps around windows.	Kitchen wall vent or extractor fan.
Gaps at the ceiling-to-wall joint at the eaves.	Gaps around kitchen waste pipes.
Open chimneys.	Gaps around floor-to-wall joints (particularly with timber frame).
Gaps around loft hatches.	Gaps in and around electrical fittings in hollow walls.

Draught proofing

Draughts and heat escaping through gaps in the frames of windows, doors and loft hatches can be a cause of major discomfort within the home, and they cause cold, damp air to be forced in. In a typical home 20% of all heat loss is through poor ventilation and draughts.

- Draughts can be found in many different areas of the home (see table above), although commonly are found around windows, at the bottom of external doors, around your loft hatch and around the letterbox.
- Easy DIY job although can be installed professionally – which also means the product will be guaranteed.
- Brushes, foams, sealants and shaped rubber or plastic draught excluders can be used:
 - **Compression seals:** Particularly well suited for external doors as this allows for seasonal movement of the door. Wide variety of synthetic rubbers, sheathed foam or nylon brush, with rigid PVC-U or aluminium carriers nailed or screwed to the frame of the door. Care needed when repainting.
 - **Brush Seals:** Suitable for most doors and windows – particularly sliding - these are typically self-adhesive and made of nylon brush in a variety of widths for different sized of gaps. Care needed when repainting.
 - **Wiper Seals:** Rubber blade wiper seals good for wooden doors and casement windows.
 - **Sealants and fillers:** Larger gaps, including those at the heads of windows, can be filled using silicone or polyurethane sealants which, when correctly applied, expand, set and harden to permanently fill the gap. Gun-applied sealants require careful application to be effective – surfaces should be clean and dry.
 - **Chimney balloons:** These can be used to block unused chimneys, and are installed as a DIY option.

Consult 'Improving airtightness in dwellings' (GPG224) for further information.

Plugging Gaps

Filing gaps in areas such as skirting boards and floorboards with beading, sealant or newspaper to stop heat escaping and cold air entering.

Solid floors

- Air can leak through the small gap under the skirting board, causing a cold draught across the floor.
- Gaps and cracks may develop in solid floors as the concrete cures and shrinks away from the walls, providing small air leakage paths.

Suspended timber floors

- Many gaps around the boards, at the junctions with walls and around service pipes.
- Airtightness of suspended timber floors can be improved by laying hardboard sheeting over the top, to cover any gaps between the floorboards, sealing around the edges of the room.

Different Technologies - Further Insulation

Radiator Panels

Radiator panels increase the energy efficiency of a home by reflecting heat back into the room and reducing heat loss through the wall.

- This is an easy DIY job.
- These are cut to fit the size of radiator and slot behind the radiator, reducing the amount of heat lost through the wall.

Floor Insulation

Heat loss through floors can be reduced by up to 60% by insulation. If the walls and loft or roof space are well insulated, then floor insulation is worth considering, although this may be easier if other renovation work is being carried out on the home.

There are two types of floor construction: suspended timber and solid concrete, and these are generally insulated in different ways. As with all insulation, it is essential that air is allowed to circulate to reduce the risk of damp.

Installation can be through a professional installer, although DIY installation is possible.

Suspended timber floors

There are three common ways to insulate a suspended timber floor:

- Laying rigid insulation on top of the floor boards (see *Solid floor* below).
- By lifting the floor boards and adding mineral wool quilts, held in place with netting, or blown insulation between the floor joists.
- If there is a cellar or basement, quilt insulation can be held up with netting, and blown insulation can be installed by installing a board below the joists. Alternatively, rigid insulation (see *Solid floor* below) can be held in place with nails or battens.

Some important considerations before insulating a suspended timber floor:

- This is most cost-effective when the floorboards need to be lifted for other work, or when there is access from below (e.g. from a basement).
- All timbers should be inspected for damp, rot or infestation, and remedial works carried out before insulation.
- It is very important to ensure that there is adequate ventilation of the underfloor area, to avoid condensation problems.
- Floors above cellars or cellar insulation itself must achieve the correct fire resistance performance. The local authority building control office will be able to advise.

Solid floor insulation

Where the floor is being excavated and replaced, insulation can be included within or underneath the new floor – a rare but one-off opportunity to increase insulation. It is more likely that an existing floor will be insulated.

- Any existing chipboard or flooring needs to be removed, as this could rot.
- Rigid insulation is installed and then a new floor deck, commonly made from chip board, added on top.
- Rigid insulation is commonly expanded polystyrene.

Some important considerations before insulating a solid floor:

- Any problems with damp related to the floor should be rectified before insulation.
- This type of insulation will raise the floor level and so effectively reduce the room height. It usually requires re-fixing of skirting boards and reduction of door heights.

Pipe insulation and tank jackets

Fitting a jacket to a hot water cylinder is a straight forward DIY job, and fitting insulation to pipes is easy if the pipes are accessible.

Fitting a British Standard 'jacket' around an uninsulated cylinder will cut heat loss by over 75%. This is a priority measure.

Tank jackets

It is important that the hot water tank has adequate insulation:

- Most cylinders fitted in the last 20 years will have been factory insulated usually with sprayed polyurethane foam characterised an 'orange peel' type surface finish.
- If the cylinder is factory insulated and marked as compliant with the relevant British Standard (BS1566, BS 699 or BS 3198) then its heat loss is probably acceptable.
- If space permits then an additional separate insulation jacket can be cost effective, particularly on older cylinders.
- If the cylinder is either un-insulated or has a badly fitting old lagging jacket then a new lagging jacket is always the first priority.
- Any hot water jacket less than 80mm thick should be upgraded.

Pipe insulation

Insulating pipe work will minimise heat loss when hot water is travelling to the desired location.

- Primary pipework – between the boiler and hot water cylinder.
- If there is loft insulation, tanks and pipework in the loft should always be insulated.

Either preformed insulation (a tube with slit at top) or wrap around insulation is available.

Door Insulation

Like windows, doors present not only an opportunity to controlled unwanted ventilation with draught proofing but also are another surface through which heat can be lost from the home.

- Replacement doors, whether unglazed or half-glazed, should have insulated cores i.e. insulation between the two outer surfaces.
- Insulated doors are available which achieve U values as low as 0.6W/m²K.

Compliance

There are building regulations relating to draught proofing, doors, floors, and pipe insulation when renovating a dwelling. Householders should contact the local building control office of their local authority if they have compliance questions, but the following serves as an overview:

- **Draught proofing:** New and replacement windows and doors should be draught-proofed.
- **Doors:** When replacing doors which lead onto an 'unconditioned' part of the dwelling or externally, there is a maximum U-value allowed. This applies to glazed and unglazed doors.
- **Floors:** When floors are replaced, there is a maximum U-value allowed. Also, Floors above cellars or basements must achieve the correct fire resistance performance. The local authority building control office will be able to advise.
- **Pipes:** When heating systems are replaced or extended, pipes should be insulated to a minimum standard. Speak to your heating engineer for further advice.

In addition, there are building regulations when extending or implementing 'change of use' of a dwelling. Customers should seek advice from the building control office of their local authority. Further information can be found at www.planningportal.gov.uk.

There are some exceptions for historical and listed buildings. Customers should seek the advice of the conservation office of their local authority.

Finding the Product

DIY insulation products are available from large DIY outlets and some smaller independents.

Professional installers will supply products for the householder as part of the installation.

Recent and Future Developments

There are no expected industry developments in these areas over the next 12 months.



Solid Wall Insulation



Why solid wall insulation?

If you live in a home with solid, un-insulated walls, up to 45% of the heat is escaping through the walls; this is almost half of the heat loss that may occur in an un-insulated home. Insulating your solid walls will dramatically prevent heat loss in winter and also reduce heat gain in summer. It will save you money by lowering your heating costs and reduce CO₂ emissions.

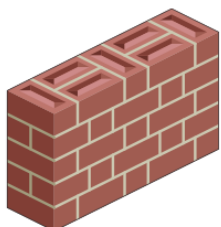
Solid wall properties (or properties with cavity walls that cannot be filled) tend to be more difficult and expensive to improve in terms of adequate insulation and heating. However, it can have a number of benefits:

- ◆ Increased warmth and comfort
- ◆ Lower fuel bills
- ◆ Reduced maintenance
- ◆ Reduced problems with condensation, damp and mould growth
- ◆ Increased value of property

Does your home have solid walls?

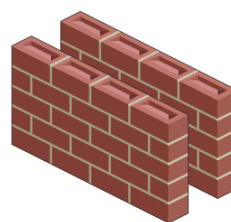
Solid walls are predominantly found in traditional buildings, for example, in the rows of Victorian terraces in most towns and cities and housing in villages. If your house was built before 1930, it is most likely that it will have solid walls.

A quick check to find out if your home has solid walls is to look at the brick pattern of your walls: solid walls have alternate bricks which are set at right angles to the rest of the bricks.



Typical solid wall brick pattern

If the brickwork has been covered, you can also tell by measuring the width of the wall. Go to a window or door on one of your external walls. If a brick wall is more than 260 mm thick then it probably has a cavity; a narrower wall is probably solid. Stone walls can be thicker still but are usually solid.



Typical cavity wall brick pattern

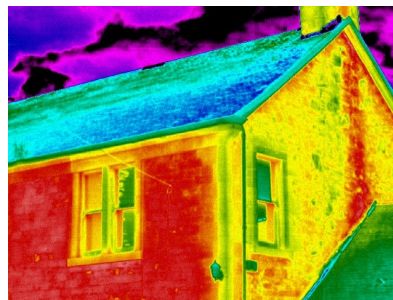


How does it work?

Solid wall insulation is usually applied to either the inside or outside of a heat loss (usually exterior) wall. It is also possible to fit insulation to both sides of a wall, or either inside or outside on different walls at the same property. This is known as hybrid solid wall insulation and might be used to avoid altering a particular façade.

Which option you choose depends on your personal circumstances. Both internal and external wall insulation will reduce heat loss. You will also save on fuel costs and increase your thermal comfort. The decision is usually based on your budget, ease of access, the severity of heat loss from your home, aesthetic consideration and whether your property could benefit from either interior or external repair work.

Heat loss walls: heat energy is transferred from homes by conduction through the walls



Thermographic image showing heat loss

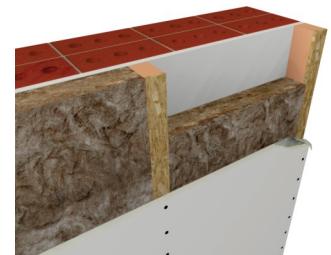


Internal Wall Insulation

There are different types of internal wall insulation; the following three types are typical:

- ◆ Directly applied insulation boards (this can be a plasterboard sheet laminated to an insulation board-known as thermal board)
- ◆ Studwork structure with insulation set between the studs (this can be a metal or timber framed system)
- ◆ Flexible insulation lining (especially designed for use in solid wall homes; this comes on a roll and is 10 mm thick, 1 m wide and 12.5 m long).

Internal wall insulation will need special attention around existing internal features and fittings, including window and door reveals. It may also exacerbate problems of dampness, therefore extra care is required to avoid these.



Internal insulation between battens



External wall insulation

External insulation systems are made up of an insulation layer which is fixed to the existing wall and covered with a protective layer such as render or decorative cladding over the top.

Although external insulation is usually more expensive, it could be the more suitable options as it can have several advantages over internal insulation:

- ◆ The internal design remains unaffected
- ◆ No interruption to the occupants during installation
- ◆ No loss of floor area and room size
- ◆ Improves weatherproofing
- ◆ Increases the life of your walls by protecting the brickwork
- ◆ Reduces condensation on internal walls and can help prevent damp (but note that it will not solve rising or penetration damp)

There are two main types of external wall insulation:

- ◆ Wet render systems, consisting of insulation material covered with thick sand/cement render. This could have a pebbledash finish which requires less maintenance than a painted render finish.
- ◆ Dry cladding systems, using insulation covered with a number of cladding materials such as timber panels, stone or clay tiles, brick slip or aluminium panels.

The main issue with external wall insulation is with the detailing at the wall and roof junctions and the windows and these will need careful attention.

Therefore, it is important that the work should be carried out by a competent installer.

To reduce cost, you might want to consider installing external wall insulation as part of a planned external refurbishment.

How much does it cost?

The costs will depend on the type of insulation you choose and can vary considerably. Generally, internal insulations systems will be cheaper than external cladding techniques. The Energy Savings Trust gives a rough price guide which is shown in the table below.

How much could I save			
Type of solid wall insulation	Saving per year	Total cost including installation	Carbon dioxide saved per year
Internal	Around £460	£5,500 to £8,500	1.8 tonnes
External	Around £490	£9,400 to £13,000	1.9 tonnes

Estimates based on insulating a gas-heated, semi-detached home with three bedrooms; source: Energy Savings Trust

Could I do it myself?

Provided that you ensure that any damp problems in your property are taken care of, it possible to apply internal insulation to any outside walls of your property yourself. However, external insulations systems are much more complicated and should be carried out by a specialist and competent installer. Any contractor that carries out solid wall insulation work should be registered with the National Insulation Association, which should covers you if any damage occurs during installation.



Layers of external wall insulation

Financial help

Financial support for solid wall insulation might be available via the Green Deal or the ECO (Energy Company Obligation). Get details about these schemes from the Energy Saving Trust. Contact them on 0300 123 1234 or go to their website (see further information below).

Do I need planning permission?

Planning permission may be required for external wall insulation as the insulation may dramatically change the appearance of your property. However, external solid wall insulation work may be subject to permitted development and planning consent may not be required for insulation along the front of a property so long as:

- ◆ The property is not listed
- ◆ The property is not in a conservation area, national park, the Norfolk Broads or an Area of Outstanding Natural Beauty
- ◆ The finish to be applied to the insulation does not change the external appearance of the property. For example: if the property was brick and the proposed finish was a render, you might have to obtain planning consent. However, if it was already rendered, then you would not.

Further information

<http://www.energysavingtrust.org.uk/Insulation/Solid-wall-insulation>

<http://www.nationalinsulationassociation.org.uk/householder/index.php?page=solid-wall-insulation>

<http://www.inca-ltd.org.uk/>

www.energysavingtrust.org.uk/Take-action/Find-a-grant

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Stone Walls

Stone-Built Walls

Stone in its various forms is a traditional building material which has been used in the construction of buildings for a very long time. Traditionally, buildings constructed using stone had solid walls, often at least 500mm (over 18 inches) in thickness. In more recent times stone has been used as an external facing for cavity walls (a cavity wall is one with two separate 'skins' stitched together by some form of wall tie). Stone used in construction has usually been obtained from sources local to the building.



There are several common methods of construction using stone:

- Solid construction with:
 - random arrangement of the individual stones
 - exposed stones set in even horizontal courses
 - dressed stone facings in courses, backed by randomly placed stones
- Cavity construction using stone in even horizontal courses for the external face of the wall.

A further variation is the use of reconstituted stone blocks as the facing for cavity walls, in place of the more common brickwork. Stone is also sometimes seen as an infill in traditional timber framing, where the main framework remains exposed externally.

Solid Stone Walls

The construction of a solid wall (random stone, coursed stone, dressed stone, etc.) makes little difference to its performance as a building element. The actual method of construction is likely to have been governed by local practices and availability of materials, and by the era in which the building was constructed.

Traditionally, solid stone walls were constructed using lime mortar, and internal plastering, if present, was also lime-based. The lime mortar is both porous and flexible. Moisture is readily absorbed into the mortar during rainfall, and is able to evaporate away leaving the wall relatively dry. The thickness of the walls is usually such that moisture does not reach the internal surface of the wall in sufficient quantity to cause a problem. However, moisture rising from the ground tends to be retained, since the rate of evaporation seldom exceeds the rate of absorption. This can result in unsightly staining of internal plaster finishes. In extreme cases the degree of dampness can lead to health problems, since the atmosphere within the property remains humid. Stone walls were traditionally constructed with no provision of a damp proof course, but from around the early part of the twentieth century it has been normal practice. However, an injected chemical damp proof course in a solid stone wall will seldom completely eradicate rising dampness, but will usually result in a significant reduction in the amount of dampness present in the wall.

Older stone walls will have been built on very shallow foundations, often consisting of no more than a line of large stones laid in a very shallow trench. Such foundations are more likely to suffer settlement or be affected by subsidence. The flexibility of lime mortar is an advantage. If minor structural movement occurs the deformation of the wall will be spread across a series of joints, and any resulting cracks are likely to be almost invisible. This is in contrast to cracking in modern cement based mortar where the cracks are usually concentrated into one or two joints, and are usually very readily visible.

Solid stone walls tend to absorb and retain heat. In winter months the walls radiate the heat back into the property, whilst in summer the heat is radiated externally. The walls are therefore able to ensure that the building is 'cool in summer and warm in winter'.

Stone-Faced Cavity Walls

Cavity walls which are faced with stone are constructed in a very similar fashion to brick-faced cavity walls. The external part of the wall is normally of greater thickness in the case of stone, since it is not usually possible to obtain regularly sized pieces of stone which are similar in thickness to a standard brick.

The cavity in the wall will provide additional weather resistance which assists in preventing water penetration to the inner part of the wall, and also offers a degree of thermal resistance to heat loss. If the cavity is insulated this will further decrease heat losses.

It is usual for a cavity wall, even when constructed using stone facings, to be provided with a damp proof course. Thus rising dampness is less likely to occur.

Stone Walls



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Maintenance and Repairs

Whilst stone walls are relatively durable, it is likely that over a long period of time the lime mortar will be eroded. This can lead to an increase in water penetration, which is not desirable. External pointing should ideally be kept in good condition. It is important to ensure that if the wall was first constructed using a lime mortar, then the same material should be used for repair works. This will ensure that the wall retains its flexibility, and more importantly its porosity. The same principle applies to the repair of internal lime-based plaster finishes. In some cases, using the wrong type of mortar can damage the stone. If the property is a Listed Building, or if it is situated within a Conservation Area, special planning provisions will apply, and repairs or modifications will need to be carried out within fixed guidelines. You should contact your local planning office if you think this applies to you.

In all cases it is wise to seek professional advice prior to commencing maintenance and repair works. Unfortunately, finding a professional to help is not always easy. A local surveyor who specialises in older properties can advise on suitable materials for use, and may also be able to provide guidance on the choice of a suitable contractor. Alternatively, you can ask for recommendation from other building owners. Organisations such as the National Trust do use specialist contractors and may be able to recommend local specialists.

Insurance Costs

The cost for reconstruction of a property built of stone will be greater than the cost for a property of similar size and age which is built of brick. As a result insurance premiums for stone-built properties are likely to be higher than for properties of brick construction.

In some parts of the UK, where stone construction is commonplace, a substitute material has been used to construct buildings in order to reduce construction costs whilst matching the appearance of nearby traditionally built stone buildings. This material is reconstituted stone, which is basically a concrete block formed by using crushed natural stone in a cement matrix. The blocks are formed in moulds, and appear very similar to natural stone. The blocks are laid in courses, usually as the external facing of cavity walls.

Whilst these reconstituted stone blocks provide an appearance which is pleasing to the eye, they do have a potential drawback. This type of block is prone to thermal movement, and it is very common to find visible cracking which extends through the joints, primarily from top to bottom of the wall. The cracking is caused by the blockwork expanding in warm weather conditions, and contracting when temperatures fall again. The cement mortar is not able to accommodate the movement and tends to crack. The cracking is unsightly, but usually has no structural significance. In many cases, repairing the cracks provides only a temporary improvement in the appearance of the wall, because further thermal movement produces more cracks either at the same location or nearby.





Cavity Wall Insulation

Cavity wall insulation is one of the easiest and cheapest ways to improve the energy efficiency of a home. It will significantly improve comfort and reduce running costs and CO₂ emissions. It is a well established and guaranteed procedure that can be completed in under a day and there are government grants available to assist with the cost of installation.



Modern cavity walls under construction

The origins of cavity walls

Cavity walls are built using the inner and outer 'leaves' of a wall which are separated by a space or 'cavity' in the separating the two leaves.

Cavity walls were first introduced in the construction of house building in the early 20th century in order to reduce water penetration through walls and to improve the insulation performance of walls.

Cavity walls are considered by most to be one of the better wall construction types. The cavity between the two wall leaves helps to prevent moisture transfer from the outside and heat loss from the inside and therefore helps to keep the house warm and dry.

Benefits of insulated cavity walls

An un-insulated home can lose up to 35% of its heat through the external walls. When a house is heated, there is natural flow of heat from the inside to the outside through the structure. Cavity wall insulation works by making the path for the heat to flow more difficult, thereby reducing the rate of heat loss through the wall. A cavity wall without insulation will lose heat three to four times quicker than a cavity wall that is insulated. The main benefits of cavity wall insulation are:

- Will reduce fuel bills and will keep your house warmer for a longer period of time
- Will result in a reduction in the CO₂ emissions of your property
- Helps to reduce draughts
- Will reduce condensation because the internal surfaces of the walls will be warmer. However, this is not a substitute for an adequate ventilation system

The table below shows typical reductions in running cost and CO₂ emissions.

Measure	Cavity Wall Insulation
Annual Savings per year (£)	Around £115
Installed cost £	Around £250 (subsidised)
Installed pay-back	Around 2 years
CO ₂ saving per year	Around 610 kg

Source: Energy Saving Trust

Is my home suitable for cavity wall insulation?

Generally speaking, for a home to be suitable for cavity wall insulation it must:

- Have cavity wall construction
- Have an empty cavity

A Domestic Energy Assessment or Home Inspection Report will normally tell you if your home is suitable for cavity wall insulation to be installed. You can usually tell whether your home is of cavity construction by the following:

- **Age**—dwellings from the 1920s onwards are likely to be of cavity construction.
- **Wall thickness**—solid walls will normally be thinner than cavity walls at 220-230 mm compared to 250-260 mm, although some older properties were built with 300mm thick walls; also other wall construction types such as stone and timber framed are sometimes difficult to distinguish
- **Brick pattern**—solid and cavity walls will normally have different patterns of brick construction

If your home has cavity walls, the bricks will have a regular pattern as shown below. If your home has solid walls, the bricks will have an alternating pattern as shown below.



Regular brick pattern of a cavity wall



Alternating pattern of a solid wall

Houses built from 1995 onwards would typically have been constructed with filled or partly filled cavities. However, houses built prior to this may have had insulation added after construction, which means that they have a 'retrofit' installation. A key identifier of retro filled cavity walls will be a regular pattern of drill holes on the outside between the courses of brickwork (see photo below).



In order to ensure a complete fill of the cavity, insulation holes are normally drilled at three 'courses' or layers of brick beneath a window (see photo above). The photo below shows an example of such a drill hole pattern on a rendered wall.



Stone and system built properties

Some stone and system built properties may have a cavity which could potentially be filled with insulation.

If you live in a property of stone or system built construction then it is worth seeking advice from an installer to check if cavity wall insulation is suitable for your property and to calculate the savings it might deliver. As this is likely to require a more specialist procedure, the installation costs may be higher than installing 'standard' cavity wall insulation.

Installing cavity wall insulation

The most common way to install cavity wall insulation in existing properties is to inject the insulation material into the cavity from the outside via a system of holes drilled between the bricks in a regular pattern.

The most common insulating materials used are mineral wool and glass fibre wool but polystyrene granules or beads, or an expanding chemical foam material can also be used. In order to be able to insulate a cavity wall, the cavity should be at least 50 mm wide.

Top tips to consider when installing cavity wall insulation

Cavity wall insulation is a very cost effective way of reducing the CO₂ emissions and the energy bill of your property and could save the average household around £115 per year.

The cost of the installation is typically around £500 (unsubsidised) depending on the building. There are grants available which could reduce these costs by up to 50%.

Seek the advice of an expert before you do any work in your property.

There are different methods and materials available for filling the cavity and your installer will advise which is the most appropriate for your house.



Cavity wall insulation is a specialist job and should only be undertaken by contractors registered with an approved organisation. We recommend that any installer used is a registered member of one of the following organizations:

National Insulation Association (NIA)

Cavity Insulation Guarantee Agency (CIGA)

Make sure that your property is surveyed by a professional before you start any building works. The surveyor will be able to inspect the property, looking at the condition of the walls to identify any constructional defects, failed pointing, dampness problems or penetrations of the external walls.

If an inspection reveals any problems, they must be removed before the installation of the insulation.

Useful Websites

www.energysavingtrust.org.uk/Home-improvements-and-products/Home-insulation-glazing/Cavity-wall-insulation

National Insulation Association (NIA) for professionally installed insulation products Tel: 01525 383313
www.nationalinsulationassociation.org.uk

Cavity Insulation Guarantee Agency (CIGA)
www.ciga.co.uk/index.html

National Energy Foundation:
www.nef.org.uk/energysaving/insulation.htm

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