

# Energy efficient glazing

## Keep the heat in and the noise out

On average, homes lose 10% of their heat through windows and doors. Installing energy efficient glazing will reduce this heat loss, keep the home warmer and reduce heating bills while also reducing noise from outside.

### How double glazing works

Double-glazed windows have two sheets of glass with a gap between them which is usually 16mm wide. It is this gap which creates an insulating barrier to slow down the rate at which heat escapes from the home. Triple-glazed windows are now also available which have three sheets of glass, and therefore two insulating gaps, to provide even better insulation.

### Choosing a double-glazed window

Choosing replacement windows for a property can be a complicated process; there are many factors to consider including the type of glass, the windowframe material and whether the windows are suitable for the style of property. Here are some tips you can follow when looking for replacement windows.

The most energy efficient glass for double glazing is low emissivity (Low-E) glass. This type of glass often has an invisible coating of metal oxide on one of the internal panes of glass next to the gap. The advantage of this type of glass is its ability to let light in but cut down on heat loss. In addition, the gap between the two panes of glass in very efficient double glazing is filled with an inert, non-



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toxic gas. This gas has a greater density than air, so it more effectively reduces the heat loss from the property. Argon is the gas most commonly used in double-glazed windows, as it is extremely cost-effective, colourless, is non-flammable and does not react to other gases.

When your windows are replaced it is vital to make sure that the building remains well ventilated, as the replacement windows will be more airtight than the originals. Ventilation allows fresh air into your home, and moisture to escape. If your property does not have much natural (passive) ventilation, look for replacement windows with trickle vents that allow a small amount of controlled ventilation.

To help you choose the best windows, the British Fenestration Rating Council (BFRC) has developed an

energy efficiency rating scheme using an scale from A+ to G (right) similar to those used for things like fridges and washing machines. When calculating the energy rating the entire window – both frame and glass – is taken into account. There are two other rating systems for windows provided by Certass and BSI. The most efficient windows may also carry the Energy Saving Trust Recommended logo.



The gap between the two sheets of glass creates an insulating layer

See all our energy advice leaflets at [www.cse.org.uk/advice-leaflets](http://www.cse.org.uk/advice-leaflets)

### How long does double glazing last?

The typical lifetime of double glazing is around 20 years, however this can vary from 10-35 years based on quality of materials, installation and where the windows are situated. Over time, the gas within the panes will gradually leak out. When around 25% of the gas has evaporated, the thermal performance of the windows will be reduced and replacing the windows or installing a secondary glazing measure should be considered (see our factsheet 'Secondary glazing: the low cost alternative to double glazing').

### Listed properties or in a conservation area

If your property is a listed building or in a conservation area there are likely to be restrictions on what you can do to your windows, so it is always advisable to contact your local authority before carrying out any work. If you can't replace the windows, there are several non-intrusive alternatives which can improve the energy efficiency and warmth of your home. These include putting up heavy, lined curtains which are closed at dusk, shutters, sealed blinds or secondary glazing – or a combination of these.

### Find a good double glazing installer through one of these organisations:

**Fenestration Self-Assessment Scheme (FENSA)** is a competent-person scheme set up by the Glass and Glazing Federation and other industry bodies. FENSA enables companies that install replacement windows and doors to self-certify compliance under the Building Regulations without the need for an assessment from Building Control: [[www.fensa.co.uk](http://www.fensa.co.uk) | 0207 645 3700]

**The Double Glazing & Conservatory Ombudsman Scheme (DGCOS)** offers a free service to investigate complaints about work carried out by its members. This includes free independent inspections, arbitration and a compensation fund. Accredited installers must offer deposit protection and a comprehensive guarantee to customers: [[www.dgc.org.uk](http://www.dgc.org.uk) | 0845 053 8975]

## Tips for lower energy bills

**Happy paying more for your electricity and gas than you need to? Course not. So here's how you can cut your bills:**

**Give your clothes a day in the sun** and give your tumble drier a break. Clothes dried in the fresh air feel great, and there are drying days in winter, too.



**Catch 'em young.** Encourage your children to switch off electric toys and lights that they're not using. They'll soon get the hang of saving energy.

**Be a friend to your freezer.** Defrost it regularly to help it run more efficiently.

**Buying a new washing machine, TV or dishwasher?** Look out for the Energy Saving Trust logo.



**Don't over-fill the kettle** (but do make sure you cover the metal element at the base).



**Dodge the draught!** Fit draught-excluders to your front door, letter box and key hole, and draw your curtains at dusk to keep the heat in.

**Turn your heating down by 1 degree.** You'll hardly notice the change in temperature, but it'll make a big difference to your heating bill.

**Sleep tight.** Make sure all the lights are turned off when you go to bed. If you want to light a child's room or a landing, use a low-wattage night light.



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Charity: 298740  
Founded: 1979

The **Centre for Sustainable Energy** is a national charity that helps people change the way they think and act on energy.

Our **Home Energy Team** offers free advice on domestic energy use to householders in Bristol and Somerset (including the unitary authorities of North Somerset and Bath & North East Somerset).



**For energy advice:**

Phone **0800 082 2234**

Email [home.energy@cse.org.uk](mailto:home.energy@cse.org.uk)

Web [www.cse.org.uk/loveyourhome](http://www.cse.org.uk/loveyourhome)



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