Action Surrey
SURREY'S LOW CARBON COMMUNITY

Secondary Glazing

Secondary glazing comes in three main forms. It can involve plastic film sealed onto the glass of the existing windows, a second layer of glazing fixed to the frame of the existing windows or a secondary sliding or hinged window on the inside of the existing windows. It works in the same way as double glazing, trapping a layer of air between two pieces of glass which reduces the transfer of heat through the window.

- **Plastic film** that can be fixed to the existing glass is the cheapest measure to help with reducing heat loss from single glazing. These are considered to be draught excluders for windows as opposed to a 'secondary glazing' solution.
- Alternatively, **a rigid bit of plastic or single pane of glass** can fixed to the frame of the existing window held in place magnetically. This can be removed to be able to clean the inside of the existing window. This provides an improvement on the thermal performance of a window and can reflect heat during the summer.
- The best type of secondary glazing is considered to be a **secondary window** installed inside of the original, see figure 1. This secondary window can be opened and is usually on sliders, can be tilted or raised in order to open the external window. See table 1 for the Energy Saving Trust figures on approximate costs and savings associated with this type of glazing. Secondary glazing should allow for a minimum of 20mm between the two windows to provide a decent level of insulation, and whilst the inside secondary window should be draught proofed the outside window should be left as it is to prevent the build up of condensation between windows.

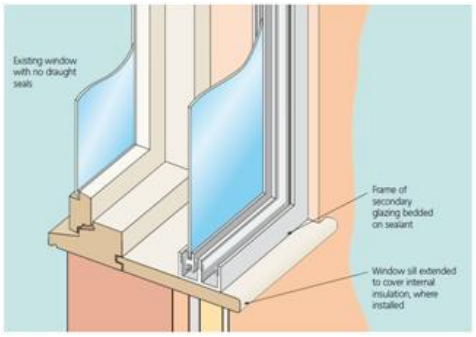


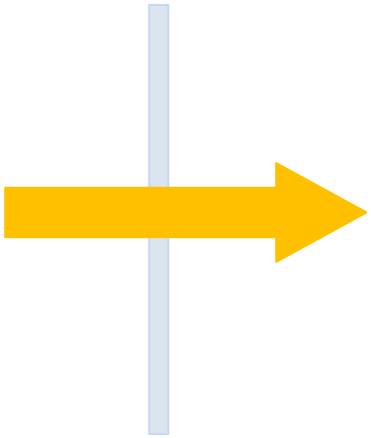
Diagram illustrating secondary glazing (courtesy of EST)

Installed secondary glazing can significantly reduce heat loss in a home. The Energy Saving Trust estimates that heat loss can be reduced by almost half depending on the type of frames. Secondary glazing can also enhance the thermal comfort of inhabitants by blocking out draughts and moisture. Secondary glazing is ideal for listed buildings or those in conservation areas.

The table below provides approximate savings that can be achieved from installing secondary glazing.

£/yr saving		KgCO2 saving/yr	
From	To	From	To
25	70	85	200

The diagram below shows the improvement in u-value associated with secondary glazing

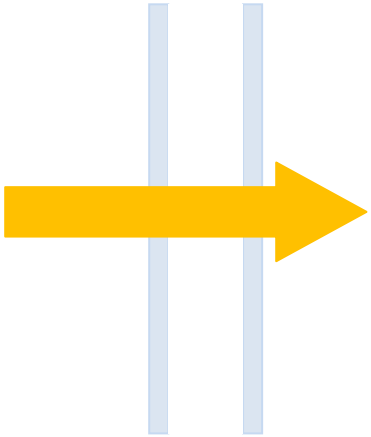


Single glazed timber frame =

4.7W/m^{2}K

Single glazed metal frame =

5.8W/m^{2}K



Secondary glazed timber frame =

2.9W/m^{2}K

Secondary glazed metal frame =

3.4 W/m^{2}K

Figures come from the Energy Saving Trust

Actio$_2$n Surrey has conducted a literature review of the different thermal properties of materials used for window frames. Please contact the advice centre for more information.

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Looking for a Supplier & Installer of windows

When looking for a double glazing installer always look for the Fenestration Self-Assessment Scheme (FENSA). This is a government recognised trading quality assurance scheme that aims to ensure homeowners and customers who are having double glazing installed receive the right level of service and have windows installed that comply with current thermal performance standards. Homeowners may have to show a certificate of compliance when selling their home and choosing a FENSA certified installer ensures that they receive this certificate from FENSA or the Local Authority Building Control.
www.fensa.co.uk

Wood framed windows

www.woodwindowalliance.com – The Wood Window Alliance is an organisation that brings together suppliers of sustainably sourced, high quality wood framed windows and installers. It runs an independently audited membership assessment ensuring its members adhere to strict quality assurances that meet and exceed government energy efficiency building regulations. The website has a supplier and installer database.

www.bwf.org.uk – The British Woodworking Federation is the trade association for woodworking and joinery in the UK. They have information on suppliers of all types of wood construction products including windows, doors, conservatories, and joinery. The BWF also runs the Timber Window Accreditation Scheme (TWA) which provides consumer confidence in sustainably sourced, high quality and energy efficient windows.

U-PVC Windows

www.pvc.org - The homepage of the European Council of Vinyl Manufacturers (ECVM) which represents the 14 European PVC resin producing companies who produce 100% of the PVC resin manufactured in Europe. Here you can find out more about UPVC.

www.bpf.co.uk - This is the homepage of the British Plastics Federation; the leading trade association of the British Plastics Industry.

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Aluminium Windows

TBC

Other useful links

http://www.bfrc.org/ - The homepage of the British Fenestration Rating Council. .

http://www.design-5.co.uk/Life%20cylce%20of%20window%20materials%20.pdf
An academic study comparing the life cycle of window materials

http://www.wwf.org.uk/filelibrary/pdf/windows_0305.pdf
WWF's research paper into timber framed windows compared with U-PVC

http://www.bioregional.com/Materials%20report%20web%20cut%20final%20draft.pdf
Bioregional's Construction Materials report that contains a BRE comparison study of softwood timber frame windows, aluminium and U-PVC.