

SELECTAGLAZE™

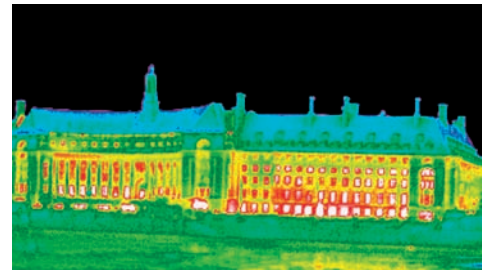


By Appointment to
Her Majesty The Queen
Manufacturer and Supplier
of Secondary Glazing
Selectaglaze Ltd.
St. Albans

CI/SfB	(31.4)	Hh4
Uniclass L413	EPIC D172	

January 2013

SELECTAGLAZE secondary glazing *saving energy*



improving building energy performance

The Need

Carbon reduction

The Climate Change Act 2008 requires a reduction in CO2 emissions of 80% against 1990 levels by 2050.

Buildings account for approximately 40% of the UK's total carbon emissions of which about half comes from non-domestic buildings.

Government Carbon Reduction commitments will not be met by reducing energy requirements for new buildings alone. The very large number of existing buildings will also need more energy efficient fittings and much improved insulation if the targets are to be met.

More than 80% of today's buildings will be still be in use in 2050

Energy cost

Volatility of supply and the high costs of developing alternative sources of energy will drive up energy costs and have a growing impact on budgets unless steps are taken to limit usage.

Regulation

Approved Document L

Approved Document L covers conservation of fuel and power and forms part of the Building Regulations. It sets strict standards of energy efficiency for new buildings and those undergoing renovation or upgrade. Standards for windows and doors can be met through a window energy rating (WER) or a whole frame U-value. Exemptions apply to listed buildings and those in conservation areas.

Window Energy Ratings

The British Fenestration Rating Council (BRFC) scheme assesses the performance of the whole window. The rating takes into account thermal losses from the frame and glass, air leakage and solar heat gains. Windows are rated A-G with A being the highest rating. Secondary windows cannot be assessed through this scheme as the construction of the outer window will always be different and hence there is no common test basis.

Whole window U-value

The whole window U-value can be assessed through laboratory test or by calculation. U-values define the rate of heat loss and the lower the figure, the better the insulation. Since secondary windows are used in combination with a wide variety of outer windows, U-values are calculated using modelling software.

Building Regulations permit the use of low-e secondary glazing in listed buildings and those in conservation areas

Energy Performance Certificates

EPC's are required whenever a building is constructed, sold or rented under the European Union's Energy Performance of Buildings Directive. The certificate identifies the performance of the building and provides cost effective recommendations for improving the energy rating but without obligation.

A building with a poor EPC is likely to be less attractive to a buyer or tenant

Selectaglaze performance

The Selectaglaze range of secondary windows has been assessed by the Centre for Window Cladding and Technology (CWCT) in combination with existing single glazed metal and timber windows at various air spacings (cavities). For comparison purposes the calculations are based on the British Fenestration Rating Council's standard window size, 1230mm wide and 1480mm high.

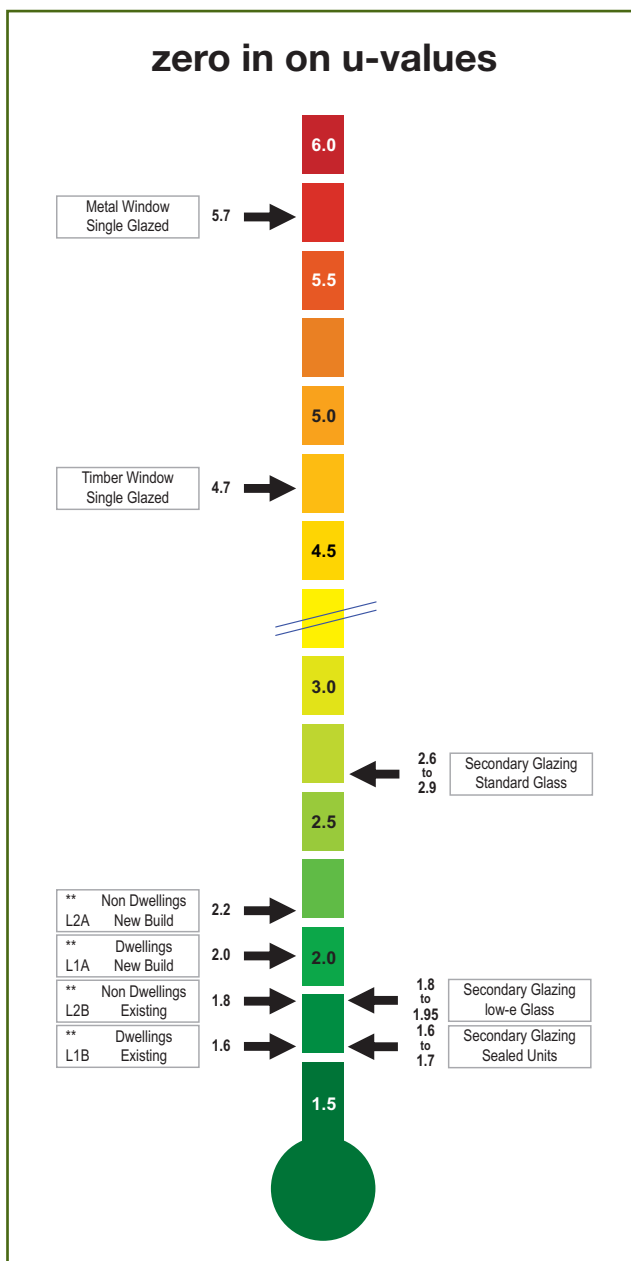
Glazing	U-value*
Standard clear glass	2.6 -2.9
Low-e glass	1.8 -1.95
Sealed unit	1.6 -1.7

Air Infiltration

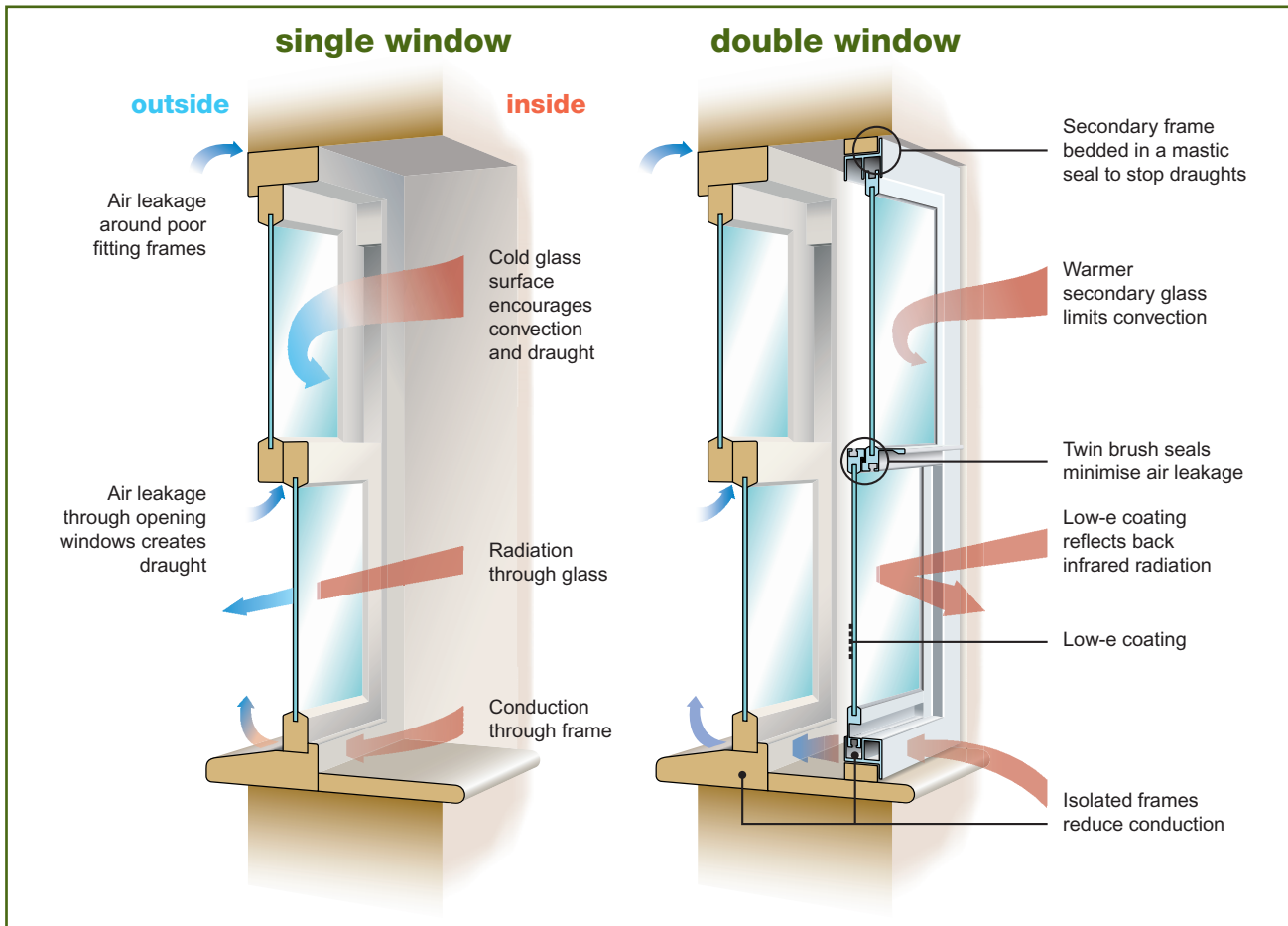
Twin high performance seals ensure minimal air leakage.

* The range of values reflects different window styles

** Building Regulations 2000 Approved Document L 'Conservation of Fuel and Power' - effective 1st October 2010



why consider secondary glazing?



The importance of design

The additional pane of glass traps an insulating layer of air and cuts down heat loss by 40-50%. This improves to more than 60% if a low-e glass is used in the secondary window and provides a u-value that is close to Part L requirements. Sealed units can also be fitted to provide triple glazing and lower u-values.

Draught proofing

The secondary window frame is bedded in acrylic mastic and all opening panels incorporate high performance seals. These measures ensure that air infiltration through the whole of the existing window and the associated ingress of dust particles is significantly reduced.

Comfort

The reduction in draughts and establishment of a more even temperature around the room will noticeably improve comfort levels.

Other benefits

Selectaglaze secondary glazing provides significantly higher noise insulation than standard 'double glazing', an important consideration for buildings in noisy locations and can offer a secure barrier against intruders or protection against the effects of blast.

guidance

Low-e glass A hard metallic coating on the surface facing the cavity helps significantly with heat containment. There is a small reduction in light transmittance and a slight roughness on the coated surface can lead to light scatter which may be visible as a haze at times when the sun is strong and low. This is not a defect in the glass. The coated surface should be cleaned occasionally with a lint free cloth and clean soapy water. Abrasive materials should not be used.

Condensation When warm moist air meets a cold surface condensation can form and this is most evident in winter months when windows are closed. Well sealed Secondary Glazing presents a warmer surface to the room and effective seals will minimise the amount of moist air reaching the cold outer glass. This will reduce but not eliminate condensation. It is strongly recommended that the outer window is not fully sealed to allow ventilation of the cavity. Low-e glass is a better insulator than standard glass and hence less heat will be conducted from the warm interior. This results in the outside glass being colder and more prone to condensation in certain conditions. It is an indication that the insulating glass is performing correctly.

Heritage

Buildings that are listed, within conservation areas or are of architectural or historic interest cannot generally have windows replaced. Secondary glazing is noted as an acceptable adaptation in PPS 5 Planning for the Historic Environment. It is also recommended by Heritage bodies but sympathetic design is needed to maintain the character of the building.

Tenancy

Tenants may wish to improve insulation levels but replacing windows may be unacceptable to the landlord. Secondary glazing offers a sensible solution that can be demounted if required at the end of the tenancy.

Sustainability

Installing secondary glazing instead of replacing a window avoids the loss of embedded energy in the existing frames and the environmental cost of Landfill. The key components of a secondary window, aluminium and glass, are fully recyclable.

