# slimlite Double Glazed Units
# BS EN 1279 Certificate

slimlite Double Glazed Units

Timber Georgian Sash and Case with Super Slimlite Double Glazed Units with 6mm, 8mm or 10mm cavity will comply with Document L for total overall window U Value 1.6 **(See section detail).**

**Building Regulations Document L 2010 England.**
Effective 1 October 2010

**Section 6 (Energy) 2010 Scotland.**
Effective 1 October 2010

**Timber New Build or Replacement windows are required to have an overall total window U Value not exceeding 1.6.**

**Listed Buildings are exempt from this provision.**

**City Of Edinburgh - Listed Buildings**

Edinburgh City Council, Historic Scotland and Edinburgh World Heritage have approved the use of Slimlite Double Glazed Units for A Listed and B Listed Buildings in Edinburgh which has the largest stock of Listed Buildings of any City in the UK except London.

> "It is not often that I get completely blown away by a building product, but I find this absolutely extraordinary, looks like a single pane of glass"
>
> Kevin McLoud - Grand Designs 2009.TV

Granted UK Patent Slimlite®


## SashGlass Ltd

1, Royal Buildings, The Strand, Deal Kent CT14 7HD
Tel 01304 369 988 Fax 01304 379 881 Email. info@sashglass.co.uk


Issued 17th October 2010

## slim**lite Double Glazed Units**

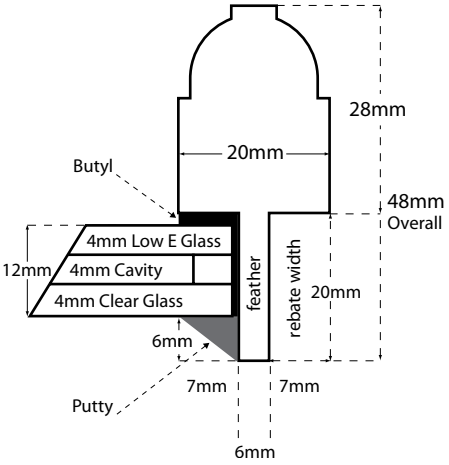
slim**lite Plus**
• Standard Cavity Widths: 3.0mm - 4.0mm - 5.0mm - 6.0mm

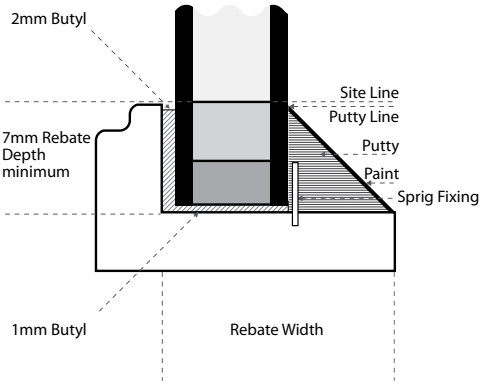
slim**lite Super**
• Standard Cavity Widths: 6.0mm - 8.0mm - 10.0mm

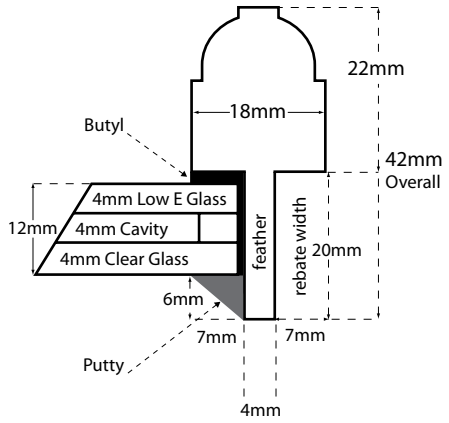
• Standard overall Perimeter Seal Depth - 5.0mm (overall tolerances + or - 1mm)

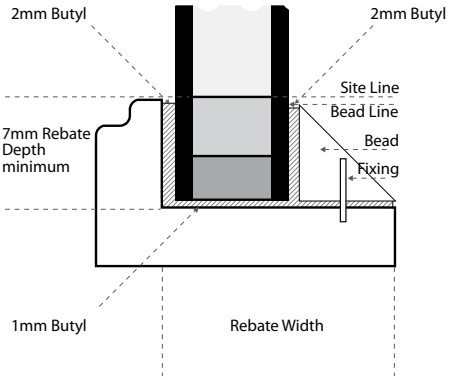
• Minimum timber rebate depth - 7.0mm

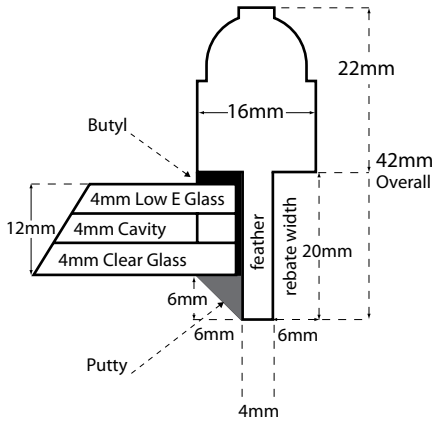
Section Standard astragal or glazing bars with Slimlite (not to scale)

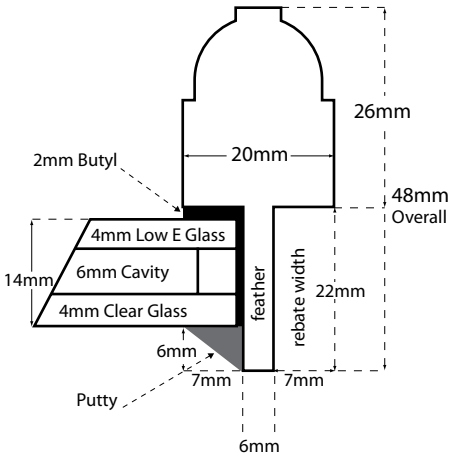



**Overall window U Value 1.6**

**Note**
Glazing sizes should be less 2mm from height and 2mm from width. Allowance should be made where frame sizes are irregular.

## Building Regulations

DOCUMENT L ENGLAND 2010

SECTION 6 (ENERGY) SCOTLAND 2010

**New or replacement windows including timber frame and glazing require U Value not exceeding 1.6/Wm²K. this restriction does not apply to Listed Buildings which are exempt.**

**Certificate BSEN1279 (Manufacturing Requirement)**

**Certificate UKAS (U Values)**

**Copies available to all purchasers**

## Single Glazing U Value 5.8 (Wm²k)

Thermal insulation/U Value comparisons

Nominal Cavities 6.0mm, 8.0mm, 10.00mm (overall tolerances + or - 1mm)

U Values determined by BSEN673 and BSEN8990. All U Values UKAS Certified.

### slim**lite Super (Low Emissivity)**

Suitable for compliance with Document L England and Section 6 (Energy) Scotland for new or replacement timber windows with total overall U Value not exceeding 1.6 (window frame and glazing). Certificated.

| | | Overall Thickness |
|---|---|---|
| Constructed 3 or 4mm Low E/6.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.4 | 12mm, 13mm, 14mm |
| Constructed 3 or 4mm Low E/8.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.3 | 14mm, 15mm, 16mm |
| Constructed 3 or 4mm Low E/10.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.2 | 16mm, 17mm, 18mm |

### slim**lite Plus (Low Emissivity)**

Suitable for reglazing into any existing single glazed windows including Listed Buildings and new or replacement windows in Listed Buildings.

Nominal Cavities. 3.0mm, 4.0mm, 5.0mm, 6.0mm (overall tolerances + or 1mm). U Values determined by BSEN673 and BSEN8990. All U Values UKAS certified.

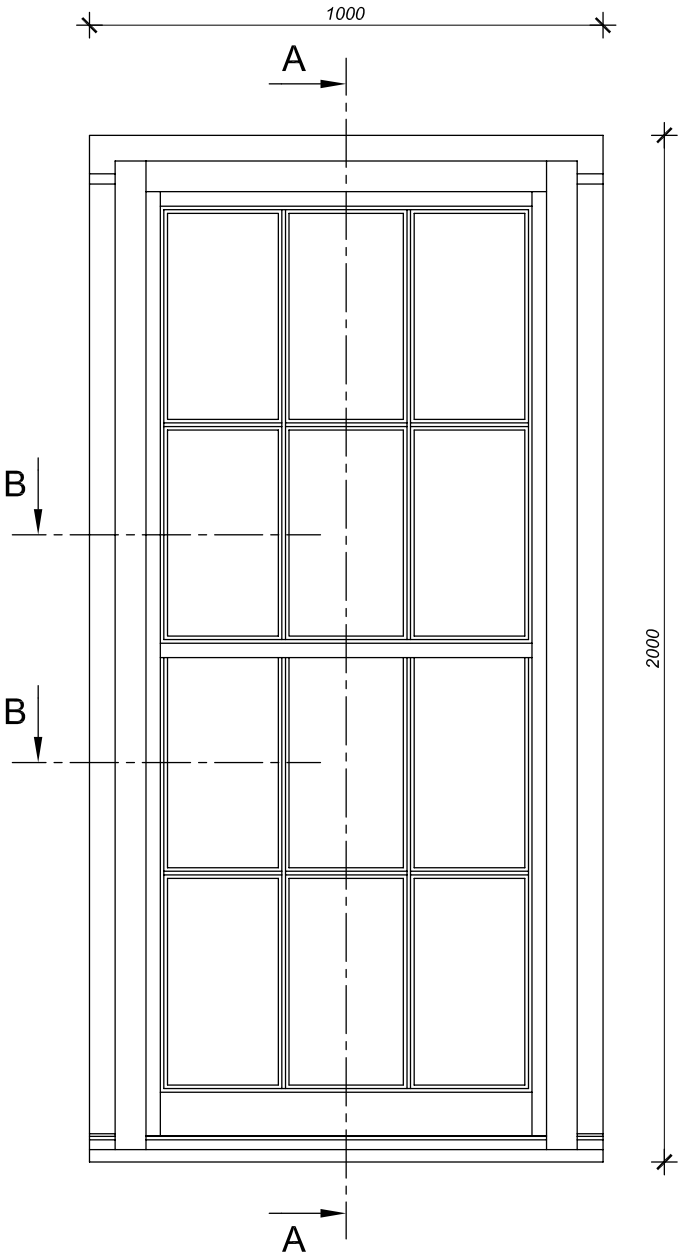
| | | Overall Thickness |
|---|---|---|
| Constructed 3 or 4mm Low E/3.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 2.1 | 9mm, 10mm, 11mm |
| Constructed 3 or 4mm Low E/4.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.9 | 10mm, 11mm, 12mm |
| Constructed 3 or 4mm Low E/5.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.7 | 11mm, 12mm, 13mm |
| Constructed 3 or 4mm Low E/6.0mm Cavity, gas/3 or 4mm clear float or Reproduction Crown | U Value 1.5 | 12mm, 13mm, 14mm |

Warm Edge spacer. It is generally considered that warm edge spacer used in Slimlite Construction will improve current stated U Values by 0.1 - 0.2.

Thickness of glass has little or no effect on insulation values.

## Electronic Gas Testing

Slimlite Double Glazed Units are tested on completion by SPARKLIKE electronically for absolute accuracy of gas content.




Elevation

## U-Value. Buildcheck

The thermal performance of the window ($U_W$) in accordance with EN ISO 10077-1:2006 is:
**1.6 W/m ²K**

All profile and PSI calculations are in accordance with BS EN ISO 10077-2:2003

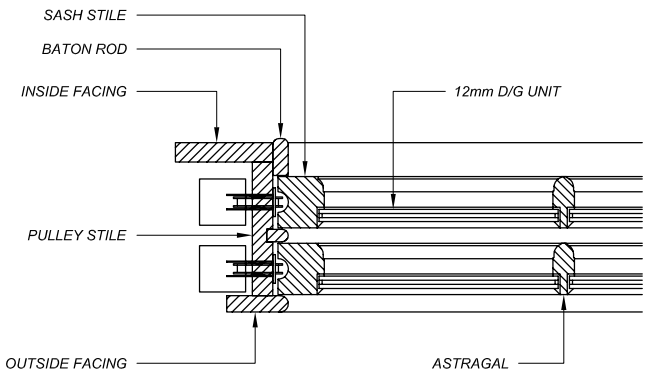
## Authorisation

Issued by:

Name: Richard Bate

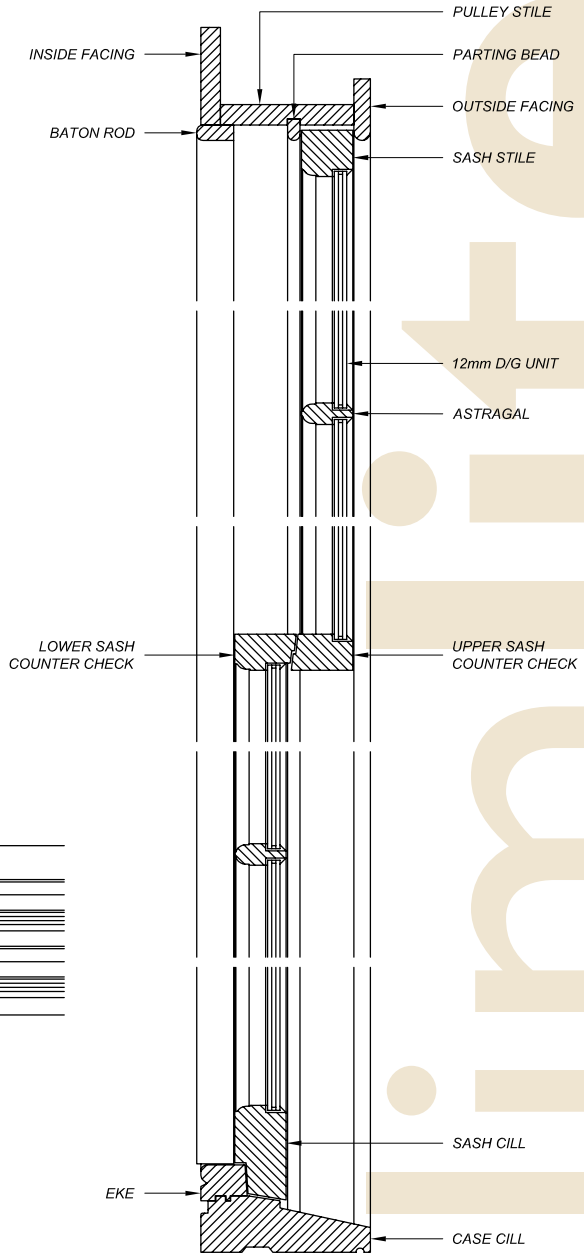
Title Technical Director

Signature




Section B-B

Complies with Document L 1st October 2010.
Suitable for new or replacement windows.




Section A-A

## Construction Materials of Slimlite Double Glazed Units

Slim**lite** is probably the most innovative product to arrive in the Double Glazing Industry for many years and was achieved by utilising the very latest technology and best products available.

### Glass

There are two types of emissivity glass referred to as (Low E), soft coat and hard coat. Soft coat is applied to one face of the glass often manufactured by vacuum deposit. The other hard coat is applied to the glass during manufacture and forms part of the glass. Hard coat is the selected Low Emissivity glass for Slimlite and should provide long term stability.

### Spacer

Super Spacer is a North American, structural foam spacer with integral drying agent and is referred to as warm edge technology. This ensures there is no significant thermal difference around perimeter edge of unit, with significant advantages over other spacers, and is considered to reduce the calculated U Value by 0.1-0.2.

### Sealant

D2000, a North American product which is the best Reactive Butyl Hot Melt system, with superior strength at high temperatures and importantly the lowest vapour transmission of any sealant on the market today.

### Inert Gases

Krypton and Xenon are the best inert gases on the market, particularly for small cavities. They are also heavy gases, which is reflected in the superior sound reduction figures for Slim**lite** and additionally provide very good thermal insulation but are more expensive than Argon used in standard units.
Most manufacturers use Argon, a very light inexpensive gas which has little or no effect on sound reduction.

### Solar Gain

Everyone knows that when the sun shines through a window, the room heats up from solar gain. This solar gain now forms part of the energy calculations to improve window energy ratings. There is therefore a desire to improve the solar gain through a double glazed unit by using glass with good solar gain, to increase the overall window rating.

However double glazed units in general are now providing much better insulation which substantially reduces heat loss and therefore any lengthy exposure to solar gain from large areas of double glazing can cause a room to become extremely hot as evidenced in conservatories requiring blinds, as heat cannot escape fast enough. A very important factor when choosing double glazing.

slim
Double

## General Information on Heat Loss in Glazed Timber Sash & Case Windows

Single glazed timber sash and case windows are very poor at conserving energy. The heat loss through single glazing which has a U-Value of 5.8 is around 70%.

This is caused by the single pane of glass which will be at approximately the same temperature as it is outside. In colder conditions in a room at around 20 degrees centigrade, the warm air will contact the cold single glazing and drop downwards at a rate exceeding two metres per second, sometimes mistakenly considered as a draught through window construction joints.

This causes a constant convection in a room where the air is being heated and then cooled by the cold single glazing, resulting in an expensive, continual 70% heat loss, through the glass.

Low E Double Glazing such as Slim**lite** reduces this heat loss by at least 50%, due in part to the Low E glass which reflects the long wave radiation or heat back into the room, combined with the insulating inert gases contained in the cavity of Slim**lite**, Krypton and Xenon, which are the most effective inert gas insulators.

The insulating effect keeps the inside pane, normally the Low E glass much warmer than the outside temperature, thereby considerably slowing down the convection mentioned above and reducing heat loss by around 50%.

Recent figures estimate that Low E double glazing such as Slim**lite** because of the escalating costs of energy will provide a pay back term of 3 to 5 years, depending on the insulation value.

Replacement of one square meter of single glazing by Low E double glazing will provide a saving of approximately 90Kg of carbon dioxide emissions per year.

The very design of sash and case windows permit the ingress of air which does not affect the thermal performance of Slim**lite** double Glazing. However a good quality draught proof system should reduce the draughts by around 80%.

## Document L England - Section 6 Scotland

These new insulation requirements for windows are a result of the Kyoto Agreement to reduce carbon emissions and bring to an end the poor insulation of single glazed windows except for Listed Buildings. However Edinburgh have recently made a major policy change allowing replacement double glazing such as Slim**lite** to A and B Listed Buildings. As Edinburgh has more Listed Buildings than any other City in the UK except London, other City Authorities may well consider their current policies.

lite
Glazed Units

## Advantages of Slimlite Double Glazed Units

- Will Comply with Building Regulations Section 6 Scotland and Document L England for improved thermal insulation.
- 5mm perimeter seal of Slim**lite** Double Glazed Units enables them to be glazed into 7mm deep glazing rebates.
- The smaller cavities between the glass reduces the required glazing width rebates and enables slimmer sections to be used.
- The only double glazed unit that can be glazed into most standard astragals or glazing bars.
- Can be glazed into most existing single glazing glass rebates.

## Crown Glass

This glass was manufactured in the early Nineteenth Century by spinning molten glass to a circular flat shape, cooling and cutting.

Our Reproduction Crown is created by a heating process to form ripples and distortion similar to that evidenced in the old crown glass. However, by ensuring that the perimeter edges are flat, it can be incorporated in a Slimlite Double Glazed Unit, normally on the outer pane to produce the desired visual appeal preferred by Heritage and Historic Associations.

## Carbon Dioxide

In the 2004 Kyoto Protocol the EU pledged to reduce carbon dioxide emissions by 8% period 2008-2012, compared with the 1990 level. Estimated total residential emissions in the UK in 2005 was approximately 85 million tonnes. It is estimated that 27% of total carbon emissions are from property in the UK. Nearly all double glazing is now manufactured incorporating one pane of Low Emissivity (Low E) glass, which reflects the long wave radiation or heat back into the room.

The replacement of **one square metre** of single glazing with Slimlite Low E double glazing creates a saving of approximately **90Kg of carbon dioxide emissions per year**.

The average small house with **15 square metres** of single glazing replaced by Low E double glazing would **reduce carbon dioxide emissions by around 1350Kg per year**.

## Glazing

**General note on Glazing (see website www.slimliteglass.co.uk for further detail)**

It is important that all methods of glazing with Slimlite Double Glazed units should ensure that it is water tight. This will prevent ingress of water into the window rebate. Any ingress over a period will cause vapour moisture transmission to effect the unit over time and lead to unit break down and decay if in timber window.

Painting to timber windows glazed with putty or compound should not be painted for at least 7 days. Generally timber windows should be painted every 5 years and 3 years in coastal areas.