

SLIM TYPE SEALED DOUBLE GLAZING Why Mumford & Wood Ltd Do Not Supply

In recent years the use of thin double glazed units has increased for fitting into slim true glazing bars with face putty or compound glazing. The use of these slim units has been driven by planning authorities who are stipulating their use without independently certified data.

Mumford & Wood Ltd, with the aid of independent consultants, have researched a number of slim unit types. From a technical point of view the conclusion is that these products do not meet current regulations and guidelines for good glazing practice.

Mumford & Wood will not supply slim units as they do not meet current standards and appear to fail in the long term.

Key points are:

1. Many of these units use 3mm thick glass which is not considered robust enough in modern building environment
2. UK manufacturers of these sealed units are few, very small concerns and give limited warranties. **No UK manufacturer complies to BS EN1279 Part2** (SEE GGF LETTER 06/09/11) .Where secondary sealant is required to the glass unit perimeter these manufacturers do not follow sealant manufacturers recommendations on depth of sealant.
3. The glass units rely heavily on the quality of the Krypton gas filling to achieve a low U Value. UK manufacturers of these units do not meet the British Standards for this process BS EN1279 Part 3. A post installation examination report for Historic Scotland shows these units often do not achieve the advertised U value (SEE HISTORIC SCOTLAND REPORT EXTRACT). In not meeting the U Value they do not meet the requirements of Building Regulations.
4. Glass to wood gap is usually 1mm to 2mm which is difficult to achieve with a solid bedding. Recommended minimum is 3mm.
5. Face systems of putty are not acceptable for double glazing. In addition any wet type system would need constant painting to prevent drying out and shrinkage.

ENC.

GGF LETTER 06.09.2011
HISTORIC SCOTLAND STUDY TABLE 1

Table 1: Centre-of-pane and whole-window U-values

ID	Glazing type	Cavity filling	Glazing configuration see notes below	U-value centre-of-pane, W/m ² K		U-value whole-window, W/m ² K <small>calculated from measured U-value centre-of-pane</small>		
				as per spec	as measured	Window type A <small>6 over 6</small>	Window type B <small>2 over 2</small>	Window type C <small>1 over 1</small>
0	Single glazing	n/a	4	n/a	5.4	5.2	5.1	5.1
1	Sashworks	argon	4 8 4	1.8	2.0	2.6	2.4	2.2
2	Histoglass D11	krypton	3 4 4	1.9	2.7	2.9	2.7	2.7
3	Histoglass D10	krypton	3 4 4	1.9	2.3	2.7	2.5	2.4
4	Pilkington energ/Kare Legacy	vacuum	4-0.2 4	1.3	1.0	1.9	1.6	1.4
5	Simlite	air	3 3 3	2.6	2.8	3.4	3.1	3.0
6	Simlite	xenon & krypton	3 3 3	2.1	2.3	2.8	2.6	2.4
7	Slenderglaze	xenon & krypton	4 3.9 4	2.1	1.7	2.5	2.2	2.0
8	Simlite	xenon & krypton	3 3 3	2.1	2.3	2.8	2.6	2.5
9	Supalite	argon	4 4.8 3	2.5	2.8	3.0	2.9	2.8
10	Simlite	xenon & krypton	3 3 3	2.1	2.0	2.7	2.4	2.2
11	Single glazing with secondary glazing	n/a	n/a	n/a	1.7	2.0	2.0	2.1
12	Simlite (ID 6) with secondary glazing	n/a	n/a	n/a	1.4	1.6	1.5	1.5

Notes

- U-values are expressed in W/m²K.
- All glazing has a low emission inner glazing pane.
- Glazing configuration in mm: inner pane - cavity - outer pane.
- For the measured centre of pane U value of single glazing, please refer to Historic Scotland Technical Paper 1 [2].
- ID 3 has hand drawn glass as outer pane.
- ID 6 has crown effect glass as outer pane.
- ID 11 the centre of pane U value was measured for the 2008 research report [2]
- ID 12 the centre of pane U value was calculated using the FRAME program [4]



Glass and Glazing Federation

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6 September 2011

Dear Mr. Mumford

Re: Enquiry to the Glass and Glazing Federation.

In response to your enquiry, there are a number of factors to be taken into account.

Firstly you do not say if the building is listed or not. If not, any new windows will be required to meet the new Approved Document L 2011, of the Building Regulations. This will require a defined and verified thermal rating for the window. If the building is listed then like-for-like windows can be installed.

Regarding the use of glass, it has been the norm in the UK to use 4mm glass in all domestic applications. Due regard to Approved Document N must be taken.

Using 3mm glass is not prohibited by any regulation, but it does require extra care in use and is not as robust as 4mm glass.

Regarding the glazing of insulating glass units you are correct in stating that putty should not be used.

The insulating glass manufacturer should advise on compatible glazing materials.

Normal hot melt sealants are not chemically curing systems and have little resistance to solvents and diluents used in glazing compounds. There are curing hot melts available that are better in this respect.

The use of a 'soft non setting butyl' should be taken with care as it is necessary for the softness to be achieved by the use of a low molecular weight butyl rather than the use of extenders/ diluents/ solvents.

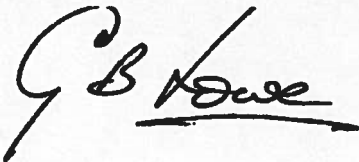
Practically, it is difficult to achieve a 1-2mm bed for glazing and all recommendations are for 3mm. what is important is to ensure there are no air voids in the glazing where water can accumulate as this will impair the service life of the units.

There have been questions regarding the service life of slimline insulating glass units as the method of manufacture is difficult and does not always follow the sealant manufacturers' recommendations.

It should also be remembered that the insulating glass manufacturer should be able to show compliance with EN1279 Part 2 and in the case of krypton filled units, Part 3. To date no certificates of conformity have been seen by the Glass and Glazing Federation.

We enclose your receipted invoice.

Yours sincerely

A handwritten signature in black ink, appearing to read 'G B Lowe'. The signature is written in a cursive style with a horizontal line underlining the name.

Dr. G B Lowe

Director