

The requirement for thermally insulating windows is becoming more and more important within the construction industry to meet the demands of government policy, the conservation of fuel and power and ultimately the future of the planet.

At glas facades, we are committed to energy conservation and sustainable development and have invested heavily on thermal testing and simulation to bring you a finely tuned product offering outstanding thermal insulation properties.

The Vision 3000 product family has been fully independently tested (full test results available upon request) to establish their U values (i.e. the amount of energy that is lost through the window).

Although having a low U value is not the complete solution to having an energy conserving window (refer to our fact sheet 'BFRC Energy Rating Scheme' and 'Sustainability'), it is a very important consideration in both replacement windows and new build. There is also a requirement to comply with Document L of the Building Regulations where U values are the main criteria of compliance.

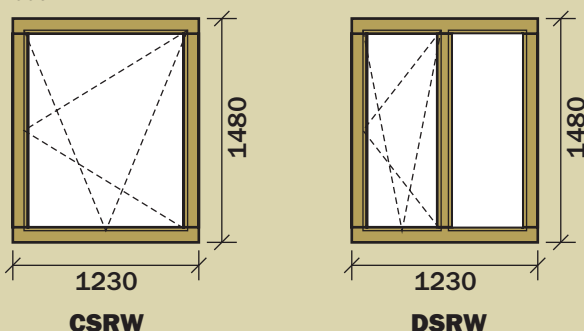
We offer here an easy to use guide to help you establish which glass types you will need to specify with our product to attain the best or required U values of the system once installed. You can then be assured that compliance with regulations is fully met and that your building has the most cost effective thermal solution required.

STEP 1...

Select from below the closest window design that matches your elevations. The two designs below (which have been tested separately) mirror the requirements of the:

- (a) the European-wide accepted norm for commercial windows - The Commercial Standard Reference Window (CSRW), and
- (b) the Glass and Glazing Federation's norm for domestic windows - The Domestic Standard Reference Window (DSRW).

These two designs have been standardised throughout the industry so that accurate comparisons between products can be made.



STEP 2...

Decide what combined frame and glass U value (in W/m^2K) you need for compliance with Document L of the current Building Regulations. Depending on type of build, e.g. energy conserving properties etc., you may wish to have a lower U value than is required by regulations.

Due to the very high thermal insulating properties of the Vision 3000 product, you will probably find that the minimum requirements of the Building Regulations are more than met by a standard cost effective glass configuration.

STEP 3...

Using your combined U value from Step 2 and window type from Step 1, you will find on the table below possible glass only specifications to fulfill your combined glass and frame U value requirements. As well as the required centre pane U value for the glass, you will also find if either (a) a standard aluminium spacer bar, or (b) a warm edge spacer bar is required.

The relationship between centre pane U values and combined frame/glass U values on the table is fully backed up by our independent test results.

STEP 4...

Establish glass and spacer bar type

Required Combined frame/glass U Value (W/m^2K)	Centre pane U value of glass (W/m^2K)	
	Type: DSRW	Type: CSRW
1.7	1.5 a	
1.6	1.5 w	1.3 a
1.5	1.4 w	1.2 a
1.4	1.2 w	
1.3	1.1 w	0.9 a
1.2	0.9 w	0.7 a
1.1	0.7 w	0.5 a
1.0	0.5w	
0.9	n/av	
0.8	n/av	

(w=warm edge spacer, a=standard aluminium spacer)

Recommended glass configurations

(glass manufacturers and performance figures are subject to change so this is only a guide)

	28mm Double: 4mm F / 20mm A / 4mm HCLE 28mm Double: 6mm F / 16mm A / 6mm HCLE
	28mm Double: 4mm F / 20mm A / 4mm SCLE 28mm Double: 6mm F / 16mm A / 6mm SCLE
	38mm Triple: 4mm HCLE / 14mm A / 4mm F / 12mm A / 4mm HCLE 38mm Triple: 6mm HCLE / 10mm A / 6mm F / 10mm K / 6mm HCLE
	38mm Triple: 4mm SCLE / 14mm A / 4mm F / 12mm A / 4mm SCLE 38mm Triple: 6mm SCLE / 10mm K / 6mm F / 10mm K / 6mm SCLE
	38mm Triple: 4mm SCLE / 14mm K / 4mm F / 12mm K / 4mm SCLE

Use "Minimum and Maximum Sizes" fact sheet to determine use of 4mm or 6mm glass. F=normal float glass, HCLE=hard coat low E coated, SCLE=soft coat low E coated A=90% Argon gas / 10% air cavity fill, K=90% Krypton gas / 10% air cavity fill

BFRC Energy Rated Windows

Where there is a requirement for BFRC certified energy rated windows - please refer to separate fact sheet "BFRC Energy Rating" as the requirements for rated windows are different from those stated here.