

A CHANGE IN BUILDING REGULATIONS

As the result of the recent building regulations update, the following changes have been implemented. We are moving away from the classic A-rated or B- rated unit and are focusing on the U-value or G-value of the overall unit.

U -Value

U-value, also known as thermal transmittance, is a measure of how much heat energy is lost or gained by a window (or a structure). In other words, a U-value is used to measure how well or how badly the IGU transmits heat from the inside to the outside. The units are measured in W/m²K. The lower the U-value, the less heat is lost through the unit.

G-Value

G-value (or The Solar Factor) is a coefficient used by window manufacturers to measure a window's ability to transmit solar energy. It is the percentage of solar energy transmitted directly or indirectly through the glass to the interior and measures the capability of the glass to reduce heat input. The lower the solar factor, the higher solar protection and, therefore, the higher the performance of the solar control glass.

Light Transmittance

Light Transmittance. is a measure of the amount of light that passes through a double or triple glazed unit. The transmittance of light waves can be affected by the thickness of the glass, the glass type (tinted) and if the glass has a coating applied on the surface. The lower the percentage, the greater the light the glass absorbs and reflects.

The total Light Transmittance. is calculated as:

Total Light, minus Absorption, minus Reflection = Light Transmittance. (IN %)

PERFORMANCE VALUES

DOUBLE GLAZED UNIT

Glass Spec	Combination	Ug- Value	Solar Factor G	Light % LT
4/16/4	Clear / Neutral Low-e	1.2 W/m2K	0.71	82
4/16/4	Clear / HP Neutral Low-e	1.0 W/m2K	0.48	66
4/16/4	Low Iron / Neutral Low-e	1.2 W/m2K	0.74	83
4/16/4	Low Iron / HP Neutral Low-e	1.0 W/m2K	0.50	67
4/20/4	Clear / Neutral Low-e	1.2 W/m2K	0.71	82
4/20/4	Clear / HP Neutral Low-e	1.1 W/m2K	0.48	66
4/20/4	Low Iron / Neutral Low-e	1.2 W/m2K	0.74	83
4/20/4	Low Iron / HP Neutral Low-e	1.1 W/m2K	0.50	67
6.8/16/4	Clear Lam / Neutral Low-e	1.2 W/m2K	0.66	82
6.8/16/4	Clear Lam / HP Neutral Low-e	1.0 W/m2K	0.45	65
6.8/16/4	Clear Lam / Neutral Low-e	1.2 W/m2K	0.66	82
6.8/16/4	Clear Lam / HP Neutral Low-e	1.0 W/m2K	0.45	65

PERFORMANCE VALUES

TRIPLE GLAZED UNIT

Glass Spec	Combination	Ug-Value	Solar Factor G	Light % LT
4/12/4/12/4	Clear/ Neutral Low-e	0.8 W/m2K	0.61	75
4/12/4/12/4	Clear / HP Neutral Low-e	0.7 W/m2K	0.36	50
4/12/4/12/4	Low Iron / Neutral Low-e	0.8 W/m2K	0.64	76
4/12/4/12/4	Low Iron / HP Neutral Low-e	0.7 W/m2K	0.37	51
4/14/4/14/4	Clear / Neutral Low-e	0.7 W/m2K	0.61	75
4/14/4/14/4	Clear / HP Neutral Low-e	0.6 W/m2K	0.36	50
4/14/4/14/4	Low Iron / Neutral Low-e	0.7 W/m2K	0.64	76
4/14/4/14/4	Low Iron / HP Neutral Low-e	0.6 W/m2K	0.37	51
4/16/4/16/4	Clear / Neutral Low-e	0.6 W/m2K	0.61	75
4/16/4/16/4	Clear / HP Neutral Low-e	0.5 W/m2K	0.36	50
4/16/4/16/4	Low Iron / Neutral Low-e	0.6 W/m2K	0.64	76
4/16/4/16/4	Low Iron / HP Neutral Low-e	0.5 W/m2K	0.37	51
6.8/10/4/12/4	Clear Laminated / Neutral Low-e	0.8 W/m2K	0.57	74
6.8/10/4/12/4	Clear Laminated / HP Neutral Low-e	0.7 W/m2K	0.34	50
6.8/12/4/14/4	Clear Laminated / Neutral Low-e	0.7 W/m2K	0.57	74
6.8/12/4/14/4	Clear Laminated / HP Neutral Low-e	0.6 W/m2K	0.34	50
6.8/14/4/16/4	Clear Laminated / Neutral Low-e	0.6 W/m2K	0.57	74
6.8/14/4/16/4	Clear Laminated / HP Neutral Low-e	0.6 W/m2K	0.34	50

ACOUSTIC DATA SUMMARY

Acoustic laminated glass is designed to reflect and absorb the sound waves and limit sound frequencies moving between the panes for glass, significantly reducing noise intrusion. The chart below presents the standard values of the weighted acoustic insulation.

R^w	The number used to weight acoustic insulation coefficient.
C	Corrective coefficient for sound sources containing few low frequencies, for example, high speed road traffic, high speed rail traffic and children playing.
C^{tr}	Corrective coefficient for sound sources containing a large number of low frequencies, for example urban road traffic.

* The glass spec indicates thickness only. As any product can be used in this thickness except where “ac” (acoustic lam) is denoted.

Glass Spec*	R ^w	C	C ^{tr}
4mm / 20mm / 4mm	32	-1	-4
6mm / 18mm / 4mm	35	-1	-4
6mm / 16mm / 6mm	35	-2	-4
6.8mm / 18mm / 4mm	37	-2	-5
6.8mm (ac) / 18mm / 4mm	39	-2	-6
6.8mm (ac) / 16mm / 6mm	39	-1	-6
8.8mm (ac) / 16mm / 4mm	40	-2	-6
8.8mm (ac) / 14mm / 6mm	41	-2	-6