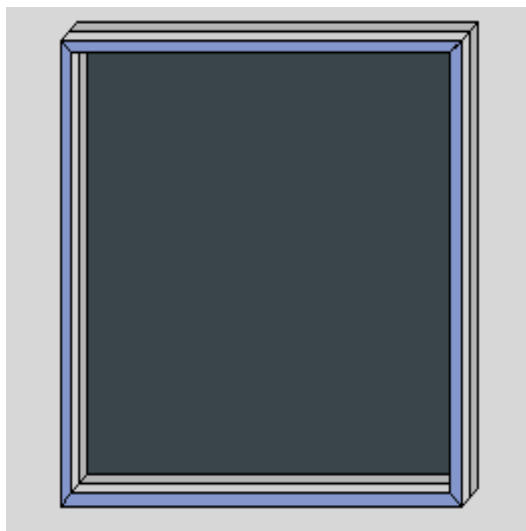


# Effect of change in pane size on Energy saving



SHGC	Drop (mm)	Width (mm)							
		600	800	1000	1200	1500	1800	2000	2400
	600	0.413	0.422	0.427	0.431	0.434	0.437	0.438	0.44
	900	0.415	0.424						0.443
	1000	0.415		0.43					0.443
	1200	0.415			0.434				0.443
	1500	0.415				0.438			0.443
	1800	0.414					0.44		0.443
	2000	0.414						0.441	0.443
	2400	0.413	0.423	0.428	0.432	0.436	4.32	0.44	0.442
U-Factor	Drop (mm)	Width (mm)							
		600	800	1000	1200	1500	1800	2000	2400
		600	4.363	4.247	4.178	4.132	4.086	4.055	4.04
	900	4.021	3.974						3.611
Window:		3.952		3.727					3.53
Frame Type:	Aluminium no break Picture (fixed ) Custom	3.849			3.554				3.407
Glass Type:	3mm plain	3.743				3.374			3.281
Blind Film Type:	Br/Br 10% (#57)	3.671					3.249		3.196
Film/glass Separation:	25 mm	3.635						3.185	3.152
Environmental Conditions:	NFRC/ISO 15099 Summer	3.579	3.415	3.316	3.25	3.184	3.141	3.119	3.086

**Notes:** This chart is fundamentally a sensitivity analysis to show how the dimensions of a window will effect the energy saving properties of the window. This window is a simple case aluminium framed window, with 3mm plain window glass, fitted with a Reflective Blind, mounted 25mm out from the glass. This exercise is purely for information purposes, to measure the effects of size and it should not be presumed that some of the window sizes shown here would be allowed under the Building Code of Australia. The chart shows that the effect of the change in size is not great, but that as the window size increases in "Width" and "Drop", the Solar (SHGC) and Thermal (U-Factor) performance improves marginally. This means that as the window becomes larger it becomes marginally more efficient as the less efficient window frame contributes proportionately less to the equation.

**Definitions:** The Solar Heat Gain Coefficient ( SHGC ) is the fraction of solar radiation admitted through a window, both directly transmitted and absorbed and subsequently released inward. This is expressed as a number between 0 and 1, but can also be expressed as 0 to 100%. The Coefficient of Thermal Transfer (U-Factor) is the rate of heat transfer from the hot side to the cold side and is independent of the sun. This is measured in Watts/M<sup>2</sup>/deg K.

**Discussion of the above Data:** The reduction in solar heat gain contributed to a house by this window is about 45.8% for a large window and 48.7% for a small window. That is the size or the shape of the window is of little consequence.

The U-Factor values quoted here are best case numbers where the edges of the blinds are sealed. In most installations the values will be higher. Therefore more information is required before assumptions can be made with regard to the U-factor.