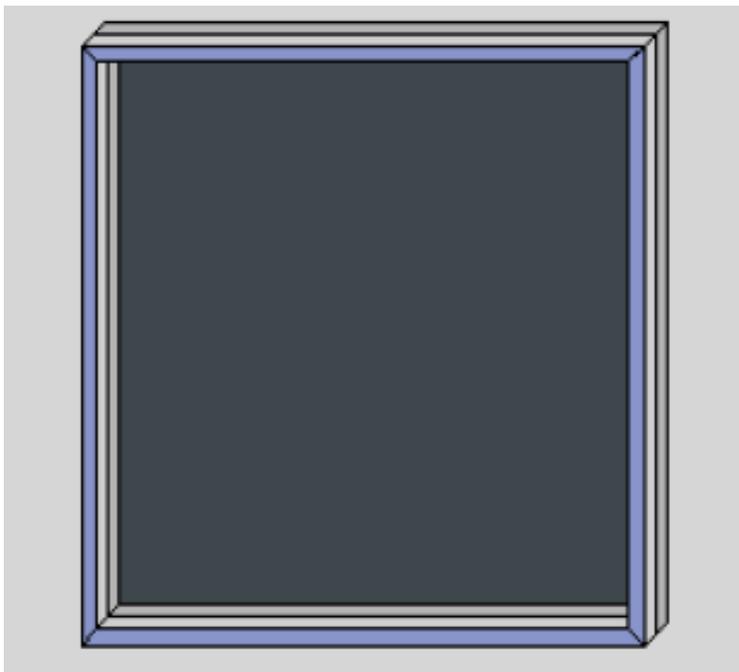


Effect of change in pane size on Energy Saving



Case Study 3: for details see below



SHGC

Drop (mm)	Width (mm)							
	600	800	1000	1200	1500	1800	2000	2400
600	0.23	0.228	0.227	0.226	0.226	0.255	0.225	0.225
900	2.19	0.217						0.213
1000	0.217		0.213					0.21
1200	0.213			0.209				0.206
1500	0.21				0.204			0.202
1800	0.207					0.2		0.199
2000	0.206						0.198	0.198
2400	0.204	0.201	0.199	0.198	0.197	0.196	0.196	0.195

U-Factor

Drop (mm)	Width (mm)							
	600	800	1000	1200	1500	1800	2000	2400
600	4.363	4.247	4.178	4.132	4.066	4.055	4.04	4.017
900	4.021	3.884						3.611
1000	3.952		3.727					3.53
1200	3.849			3.554				3.407
1500	3.743				3.374			3.281
1800	3.671					3.249		3.196
2000	3.635						3.198	3.152
2400	3.578	3.415	3.316	3.25	3.184	3.141	3.119	3.086

Window	
Frame Type:	Aluminium, No break
Glass Type:	3mm plain
Blind Film Type:	Super Br/Si 3% UV Silver out (#60)
Film/glass separation:	25mm
Environmental Conditions:	NFRC/ISO 15099 Summer

Note: 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 /deg K.

Discussion of the above Data:

The reduction in solar heat gain contributed to a house by this window is about 74.7% for a large window and 74.3% for a small window. That is the size or the shape of the window is of little consequence. The U-Factor numbers 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.