

## REFLECTIVE BLINDS/ENERGY SHIELD:

Performance Data for Reflective roller Blinds mounted 25mm inside 3mm clear glass window in typical timber frame.

MODELLING RESULTS: OPTICS 5 AND WINDOW 5, AUGUST 200 Modelling Result: Dr . P. LYONS, AWA Inc.

Product	Centre-glass U-value	Best % change in centre-glass U-value	Whole-window U value	Best % change In whole-window U value	Centre-glass SHGC	Best % change in centre-glass SHGC	Whole-window SHGC	Best % change in whole-window SHGC	Visible transmittance (centre glass)	Visible transmittance (whole window)	Damage-weighted (fading) transmittance (centre glass)	% Solar energy rejected
3mm clear glass in typical timber frame- BASE CASE	4.523		3.993		0.870		0.710		89.9%	80.9%	0.720	
<b>Super range of Reflective blind films:</b>												
Super Bronze/Silver (Silver Out) 3% - UV	2.442	-46.0%	2.531	-36.6%	0.204	-76.6%	0.199	-72.0%	3.0%	2.3%	0.012	80.1%
Super Bronze/Silver (Silver In) 3% - UV	2.442	-46.0%	2.531	-36.6%	0.312	-64.1%	0.281	-60.4%	2.9%	2.2%	0.012	71.9%
Super Grey/Silver (Silver Out) 3% - UV	2.442	-46.0%	2.531	-36.6%	0.205	-76.4%	0.199	-72.0%	2.4%	1.8%	0.011	80.1%
Super Grey/Silver (Silver In) 3% - UV	2.442	-46.0%	2.531	-36.6%	0.330	-62.1%	0.295	-58.5%	2.3%	1.7%	0.011	70.5%
<b>Standard range of Reflective blind films:</b>												
Bronze/Silver (Silver Out) 10% - UV	2.442	-46.0%	2.531	-36.6%	0.274	-68.5%	0.252	-64.5%	7.3%	5.6%	0.027	74.8%
Bronze/Silver (Silver In) 10% - UV	2.442	-46.0%	2.531	-36.6%	0.357	-59.0%	0.316	-55.5%	7.1%	5.4%	0.026	68.4%
Grey/Silver (Silver Out) 10% - UV	2.442	-46.0%	2.531	-36.6%	0.293	-66.3%	0.266	-62.5%	6.6%	5.1%	0.031	73.4%
Grey/Silver (Silver In) 10% - UV	2.442	-46.0%	2.531	-36.6%	0.381	-56.2%	0.334	-53.0%	6.4%	4.9%	0.030	66.6%
Gold/Grey (Gold Out) 10%	2.442	-46.0%	2.531	-36.6%	0.333	-61.7%	0.297	-58.2%	7.1%	5.4%	0.029	70.3%
Gold/Grey (Gold In) 10%	2.442	-46.0%	2.531	-36.6%	0.360	-58.6%	0.318	-55.2%	6.9%	5.3%	0.029	68.2%
Bronze/Bronze 10% - UV	2.442	-46.0%	2.531	-36.6%	0.475	-45.4%	0.406	-42.8%	8.9%	6.8%	0.032	59.4%
Grey/Grey 10% - UV	2.442	-46.0%	2.531	-36.6%	0.450	-48.3%	0.387	-45.5%	5.8%	4.4%	0.029	61.3%

### Definitions and notes:

**U-Value:** The coefficient of thermal transfer. This is the rate of heat transfer from the hot side to the cold side.

It is the inverse of the R value or the thermal resistance ( $U = 1/R$ ), and is expressed in watts/square metre/degree Kelvin)

The U-Value is independent of the sun.

**Solar Heat Gain Coefficient, SHGC:** The fraction of solar radiation admitted through a window or skylight, both directly transmitted and absorbed and subsequently released inward.

The SHGC has replaced the shading coefficient as the standard indicator of a window's shading ability.

SHGC can be expressed in terms of the glass alone, or can refer to the entire window assembly.

It is expressed as a number between 0 and 1. the lower the window's SHGC, the less solar heat it transmits, and the greater its shading ability.

**Standard Window for which this performance data is calculated:** Timber frame 1.5 metres X 1.8 metres, that is 2.7 sq.metres, with 3mm window glass and the blind 25mm in from the glass.

Performance for other window frame/glass type/and sizes will become available over time as data becomes released.

Preliminary **sensitivity analysis** has shown little variation in performance as the distance from the glass is increased to 100mm, but these calculations still await validation.

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