

Thermal Insulation Properties of Roller Shutters.

Computer modeling tests using the NatHERS (National Housing Energy Rating Software) have been carried out on a typical project home and typical residential units located in Sydney, Melbourne and Perth with OZ Roll® roller shutters fitted to the windows. NatHERS gives an estimation of the heating and cooling loads on a given dwelling and results have shown the energy reductions and benefits of fitting OZ Roll® roller shutters

Potential savings on heating and cooling energy consumption for a whole year when using the OZ Roll® roller shutters in a **detached residence** is shown in table 1.

Table 1			
	Sydney	Melbourne	Perth
Possible total annual heating and cooling energy savings	30%	25%	40%
Potential savings on heating and cooling energy consumption for a whole year when using the OZ Roll® roller shutters in residential units is shown in table 2.			
Table 2			
	Sydney	Melbourne	Perth
Possible total annual heating and cooling energy savings for both North and South facing windows.	27%	23%	59%
% Total annual heating and cooling energy savings for both East and West facing windows.	34%	26%	44%

Conclusions

The use of OZ Roll® roller shutters on the windows of a detached residence and residential unit complex in Sydney, Melbourne and Perth was found to provide significant energy savings for heating and cooling and therefore, reduced energy bills for consumers and also a reduction in greenhouse gas emissions. The roller shutters provide an environmentally friendly and energy saving cost efficient solution to heat loss in winter and summer heat gain.

Notes: Tests were carried out on a randomly chosen home design and also on residential unit plans provided by the University of New South Wales. It is assumed that thermal insulation would exist in the ceiling and walls of the house. The shutters would be closed in summer when high levels of sunlight were on the windows. The shutters should be opened in winter to let the sunlight in and closed at night to keep the heat in. Results will vary depending on the orientation of the house, the type of construction and the position and size of windows. Results will also vary depending on how the shutters are operated and the actual weather experienced.

