

Energy Efficiency Design Card

Box Modern Melbourne

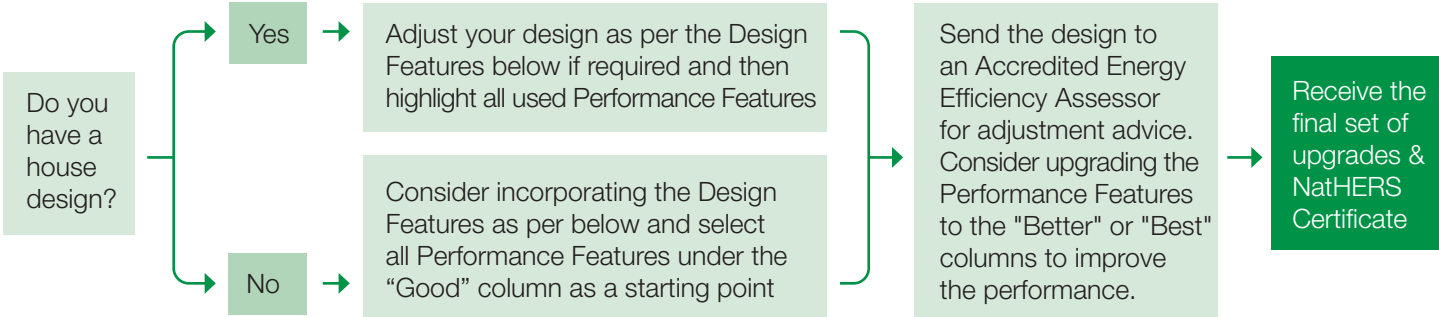
Climate Zone 6 | Mild Temperate

September 2023

The purpose of this Design Card is to aid the creative process of designing a dwelling, ensuring that the chosen direction aligns with both aesthetic and performance goals. Please keep in mind that the listed "Design Features" are key considerations, but they do not include all aspects that can be required to achieve the desired design look.

Additionally, the "Performance Features" provide a summary of features that can be incorporated into the design to achieve the desired thermal performance, such as a 6 or 7-star rating. However, these features are meant to serve as initial guidance in the design process. It is essential to subsequently have an Accredited Energy Efficiency Assessor review the design to determine its suitability.

How to use the Design Card



Design Features

The box shape is foundational in modern architecture. It's driven by the principle that "form follows function" where design is stripped back to pure form. A single box creates little interest. The arrangement and treatment of distinct box shapes is what makes the look compelling.

Box Modern



Hidden Roof Line

Parapet walls hide the roof line and make it appear flat. The capping or guttering can blend with the cladding or be used to create a dark outline to accentuate the shape against the sky.

Box Form

A minimum of two distinct boxes, or cubic forms, should be arranged so that they're offset left to right and front to back to create interest.

Achromatic Palette

Painting one box white and the other dark grey amplifies façade articulation to dramatic effect. The use of black, white and grey is a sophisticated colour palette which gives a high-end feel.

Bold Cladding

Cladding plays a more important role in the aesthetic than the windows. Use the clean lines of vertical or horizontal cladding or even panel layouts to further distinguish each box shape.

Recommended Hardie™ Products



Hardie™ Fine Texture Cladding



Hardie™ Brushed Concrete Cladding



Matrix™ Cladding

Note: This card is designed to fit an A3 page if printed. Please consider the environment before printing.

Performance Features

	MELBOURNE	GOOD	BETTER	BEST
WINDOWS	Windows Glass	Clear	Low-e clear glass	High SHGC Low-e glass
	Window Frame	Aluminium Standard Single Glazing	Aluminium Standard Double Glazing	Thermally-broken/uPVC Double Glazing
	Orientation ¹	E, SE, S, SW & W	NW & NE	N
	Openability ²	None	Include full openability on north/south windows	Include full openability on all windows
	Shading	Remove window shrouds	Reduce awnings	Reduce eaves/soffits (Max: 450mm)
INSULATION	External Wall R-Value ³⁴	R2.0	R2.5	R2.7
	Suspended Floor Insulation	R2.0	R3.0	R4.0
	Slab Insulation	Raft Slab	Waffle Pod 225/85 (310 mm)	Waffle Pod 300/85 (385 mm)
	Ceiling Insulation	R4.0	R5.0	R6.0
	Wall Cavities	Reduce wall cavities on all facades	Reduce wall cavities on east/west facades	Include wall cavities on all external walls
	Ventilation ⁵	Include ceiling fans in living areas	Include ceiling fans in bedrooms	Include ceiling fans in bedrooms and living areas
	Reflectivity	None	Include non-reflective sarking	Include reflective sarking
	Colour	Light tones	Medium tones	Dark tones

¹ Orientation refers to the main location of windows in relation to the path of the sun.

² On double storey dwelling only, installing fall protection screens on the upper storey windows enables the use of windows with full openability, increasing cross-flow ventilation and potentially reducing the cooling loads and proving a better thermal performance.

³ Inclusion of internal walls insulation on the garage area can act as a barrier to the external environment, potentially improving the energy rating.

⁴ External Wall Insulation refers to the overall R-Value of the wall as a system.

⁵ Inclusion of ceiling fans and ventilation on mild to cool temperate climates will have minimal effect on the thermal performance of the dwelling.

⁶ Thermal mass can slow down the rate at which the dwelling warms up and cools down and must be used strategically to moderate internal temperatures. Thermal mass can be found on different elements of the dwelling, such as concrete slabs, tiled finished floors or walls, among others.

External Walls

The following wall systems have been assessed in accordance with AS/NZS 4859:2018 "Thermal Insulation Materials for Buildings. Part 1: General Criteria and Technical Provision, and Part 2: Design" and provide an R-Value as required on the Performance Features Table.

GOOD

R-Value
Summer: 2.26
Winter: 2.37

BETTER

R-Value
Summer: 2.69
Winter: 2.84

BEST

R-Value
Summer: 2.83
Winter: 2.97