Energy Efficiency Design Card

Mid-Century Modern
Brisbane

Climate Zone 2 | Warm Humid Summer, Mild Winter

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

Do you have a house design?

- Yes → Adjust your design as per the Design Features below if required and then highlight all used Performance Features
- No → Consider incorporating the Design Features as per below and select all Performance Features under the “Good” column as a starting point

→ Send the design to an Accredited Energy Efficiency Assessor for adjustment advice. Consider upgrading the Performance Features to the "Better" or "Best" columns to improve the performance.

→ Receive the final set of upgrades & NatHERS Certificate

Design Features

Mid-Century Modern is a look first groundbreaking and popular in the 1970’s. One way to design a contemporary home is to modernise a nostalgic style. Modernist hallmarks of open plan living and indoor-outdoor connection are commonly used today.

Palm Springs, California is a hotspot for celebrity homes in the 1950s and for modernist design. Palm Springs can be used as a style reference for contemporary homes today. These wide single level homes have expansive but gently sloping roof lines, colourful front doors and desert-inspired landscaping with cacti and white stones.

Flat or Gently Sloped Roofs

Roofs are hidden behind parapet walls or are gently sloping in skillion, butterfly and gable styles. They often feature large overhangs.

Large Windows

Floor to ceiling windows fill rooms with light and connect indoors and outdoors and open living. The front and back of homes should feature more glass than cladding.

Angular Structures

Reveal the building structure with exposed beams. The bolts that attach structures together are often exquisitely detailed.

Contrasting Shapes

Clean, geometric lines are juxtaposted with organic shapes and bright accent colours for a playful look.

Recommended Hardie™ Products

Hardie™ Brushed Concrete Cladding

Axon™ Cladding

Hardie™ Fine Texture Cladding

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

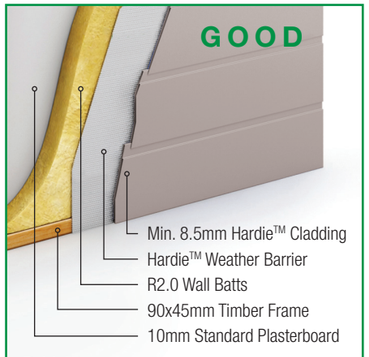
Performance Features

	BRISBANE	GOOD	BETTER	BEST
WINDOWS	**Windows Glass**	Toned glass	Low-E glass	Low SHGC Low-E glass
WINDOWS	**Window Frame**	Aluminium Standard Single Glazing	Aluminium Standard Double Glazing	Thermally broken Double Glazing
WINDOWS	**Orientation[1]**	E, SE, S, SW & W	NW & NE	N
WINDOWS	**Openability[2]**	None	Include full openability on north/south windows	Include full openability on all windows
	Shading	Inclusion of window shrouds	Inclusion of awnings	Increase eaves/soffits
INSULATION	**External Wall R-Value[35]**	R1.5	R2.0	R2.5
INSULATION	**Suspended Floor Insulation**	R2.0	R3.0	R4.0
INSULATION	**Slab Insulation**	Waffle Pod	Raft Slab	Raft Slab + R1.5 Slab Edge Insulation
INSULATION	**Ceiling Insulation**	R4.0	R5.0	R6.0
	Wall Cavities	Reduce wall cavities on all external walls	Include wall cavities on east/ west facades	Include wall cavities on all external walls
	Ventilation	Include ceiling fans in living areas	Include ceiling fans in bedrooms	Include ceiling fans in bedrooms and living areas
	Reflectivity	Include wall reflective sarking	Include roof reflective sarking	Include wall and roof reflective sarking
	Colour	Dark tones	Medium tones	Light colours

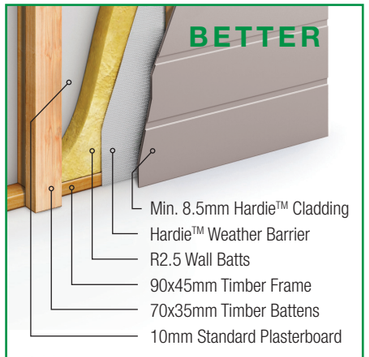
[1] Orientation refers to the main location of windows in relation to the path of the sun.
[2] On double storey dwelling only, installing fall protection screens on the upper storey windows enables the use of windows with full openability, increasing cross-flow ventilation and potentially reducing the 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] The Queensland Government can concede a 1 star credit to dwellings located in Climate Zones 1 or 2, provided:
-Inclusion of an outdoor area as described in S42C2(3) from the NCC 2022 Vol 2.
-The roof covering the outdoor area achieved a total R-Value of at least 1.5 for downward heat flow.
-The outdoor area includes a ceiling fan with a speed controller and a blade rotation diameter of at least 900mm.
Refer to the Queensland Development Code MP 4.1 Sustainable Buildings for further information.
[5] External Wall Insulation refers to the overall R-Value of the wall as a system.
[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

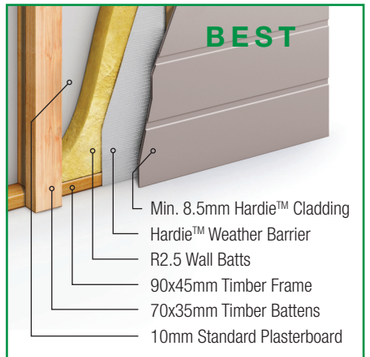
The following wall systems have been assessed in accordance with AS/NZS 4859:2018 “Thermal Insulation Materials for Buildings. Part 1: General Criteria and Technical Provision, and Part 2: Design" and provide an R-Value as required on the Performance Features Table.



R-Value
Summer: 1.93
Winter: 2.04



R-Value
Summer: 2.26
Winter: 2.37



R-Value
Summer: 2.69
Winter: 2.84

JamesHardie™