

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0008858235-01

Generated on 08 Feb 2024 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** 212 Hudson Parade,  
CLAREVILLE , NSW , 2107

**Lot/DP** 40/13760

**NCC Class\*** 1A

**Type** New Dwelling

### Plans

**Main plan** J and V

**Prepared by** RJP Design

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure type
Conditioned* 592.0	Open
Unconditioned* 53.0	
Total 645.0	<b>NatHERS climate zone</b>
Garage 47.0	56



### Accredited assessor

**Name** Joseph Lorriman

**Business name** Evergreen Energy Consultants Pty Ltd

**Email** enquiries@evergreenec.com.au

**Phone** 1300 584 010

**Accreditation No.** DMN/16/1742

**Assessor Accrediting Organisation**  
Design Matters National

**Declaration of interest** Declared, refer to Additional Notes on page 2

**6.7**  
The more stars  
the more energy efficient

**NATIONWIDE  
HOUSE**  
ENERGY RATING SCHEME<sup>®</sup>

**43.1 MJ/m<sup>2</sup>**  
Predicted annual energy load for  
heating and cooling based on standard  
occupancy assumptions.

For more information on  
your dwelling's rating see:  
[www.nathers.gov.au](http://www.nathers.gov.au)

### Thermal performance

Heating	Cooling
<b>24.6</b>	<b>18.6</b>
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=hHmbIDLpk](http://hstar.com.au/QR/Generate?p=hHmbIDLpk). When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.

## Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

### Exposure\*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional notes

Important information about this certificate. This certificate is not a building specification. Specifications

used for the assessment are attached to the stamped plans and in the assessor certificate issued by EEC.

Information in this certificate may appear to be incorrect and should be interpreted by an accredited assessor.

Conditioned and un-conditioned areas stated are not calculated in accordance with the BASIX definition.

Glazing tolerances in this certificate vary to the BASIX tolerances. For BASIX the SHGC can be +/- 10%.

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

## Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
GJA-013-25 A	GJA-013-25 A Type 131 Aluminium Sliding Window SG 6EA	4.4	0.63	0.60	0.66
GJA-050-10 A	GJA-050-10 A 050 Series Louvre-48 Al Frame w 102 Altair SG 6EA	4.3	0.56	0.53	0.59
GJA-090-21 A	GJA-090-21 A Type 477 Aluminium Bi-Fold Door SG 6EA	4.5	0.55	0.52	0.58
GJA-011-21 A	GJA-011-21 A Type 130 Series Fixed Window SG 6EA	3.9	0.66	0.63	0.69
GJA-082-21 A	GJA-082-21 A Type 472 Aluminium Hinged Door SG 6EA	4.6	0.53	0.50	0.56

## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	GJA-013-25 A	n/a	1800	3610	n/a	45	SE	No
Kitchen/Living	GJA-013-25 A	n/a	775	2170	n/a	45	SE	No
Kitchen/Living	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Kitchen/Living	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Kitchen/Living	GJA-090-21 A	n/a	2400	4120	n/a	90	SW	No
Kitchen/Living	GJA-090-21 A	n/a	2400	3320	n/a	90	SW	No
Kitchen/Living	GJA-090-21 A	n/a	2400	4120	n/a	90	SW	No
Kitchen/Living	GJA-013-25 A	n/a	1500	3610	n/a	45	NW	No
Scullery	GJA-011-21 A	n/a	600	970	n/a	00	NW	No
Powder	GJA-013-25 A	n/a	600	730	n/a	45	NW	No
Ensuite 2	GJA-013-25 A	n/a	600	710	n/a	45	NE	No
Bedroom 2	GJA-013-25 A	n/a	1500	2170	n/a	20	SE	No
Living	GJA-013-25 A	n/a	1200	1800	n/a	45	SE	No
Living	GJA-013-25 A	n/a	1800	3610	n/a	45	SE	No
Living	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Living	GJA-082-21 A	n/a	2400	900	n/a	90	SW	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living	GJA-011-21 A	n/a	2400	2420	n/a	00	SW	No
Living	GJA-011-21 A	n/a	2400	4120	n/a	00	SW	No
Bedroom 5	GJA-013-25 A	n/a	1500	2170	n/a	20	NW	No
Bedroom 4	GJA-013-25 A	n/a	1500	2170	n/a	20	NW	No
Ensuite 4	GJA-013-25 A	n/a	600	970	n/a	45	NW	No
Ensuite 3	GJA-013-25 A	n/a	600	970	n/a	45	NW	No
Bedroom 3	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Bedroom 3	GJA-082-21 A	n/a	2400	900	n/a	90	SW	No
Bedroom 3	GJA-011-21 A	n/a	2400	3220	n/a	00	SW	No
Entry	GJA-013-25 A	n/a	1500	1800	n/a	00	SE	No
Entry	GJA-011-21 A	n/a	2350	300	n/a	00	NE	No
Entry	GJA-011-21 A	n/a	2350	300	n/a	00	NE	No
Master Ensuite	GJA-013-25 A	n/a	1100	710	n/a	45	NE	No
Master Ensuite	GJA-013-25 A	n/a	1100	600	n/a	45	SE	No
Master Ensuite	GJA-013-25 A	n/a	1100	600	n/a	45	SE	No
Master Bed	GJA-013-25 A	n/a	1500	1610	n/a	10	SE	No
Master Bed	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Master Bed	GJA-082-21 A	n/a	2400	900	n/a	90	SW	No
Master Bed	GJA-011-21 A	n/a	2400	2420	n/a	00	SW	No
Master Bed	GJA-011-21 A	n/a	2400	4120	n/a	00	SW	No
Office	GJA-050-10 A	n/a	2400	500	n/a	90	SW	No
Office	GJA-082-21 A	n/a	2400	900	n/a	90	SW	No
Office	GJA-011-21 A	n/a	2400	3220	n/a	00	SW	No
Office	GJA-013-25 A	n/a	1150	1610	n/a	45	NW	No
Garage 1	GJA-013-25 A	n/a	1500	2170	n/a	45	NW	No
Entry	GJA-011-21 A	n/a	600	2400	n/a	00	NE	No Shading
Entry	GJA-011-21 A	n/a	600	2400	n/a	00	NE	No Shading
Entry	GJA-011-21 A	n/a	600	1800	n/a	00	NE	No Shading

## Roof window type and performance

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	

### Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Living	2400	920	90	NE
Entry	2400	1160	90	NE
Garage 1	2400	5800	90	NE

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete block, lined	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	No insulation	No
EW-4	Concrete block, lined	0.50	Medium	No insulation	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2800	2895	NE	100	NO
Kitchen/Living	EW-1	2800	600	SE	100	YES
Kitchen/Living	EW-1	2800	2400	NE	100	YES
Kitchen/Living	EW-1	2800	1800	SE	100	YES
Kitchen/Living	EW-1	2800	700	NE	100	YES
Kitchen/Living	EW-1	2800	3000	SE	100	YES
Kitchen/Living	EW-1	2800	1600	NE	100	YES
Kitchen/Living	EW-1	2800	11100	SE	100	NO
Kitchen/Living	EW-1	2800	14900	SW	2000	NO
Kitchen/Living	EW-1	2800	5495	NW	100	NO
Scullery	EW-1	2800	1990	NW	100	NO
Powder	EW-1	2800	3595	NW	100	NO
Powder	EW-1	2800	500	NE	100	YES
Home Theatre	EW-1	2800	5395	NW	100	YES
Home Theatre	EW-1	2800	6795	NE	100	NO
Ensuite 2	EW-2	2800	1895	SE	100	NO
Ensuite 2	EW-2	2800	1600	NE	100	YES
Bedroom 2	EW-2	2800	3690	SE	100	NO
Living	EW-1	2800	600	SE	100	YES
Living	EW-1	2800	2400	NE	100	YES
Living	EW-1	2800	1800	SE	100	YES

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living	EW-1	2800	700	NE	100	YES
Living	EW-1	2800	2995	SE	100	YES
Living	EW-2	2800	5495	SE	100	NO
Living	EW-2	2800	9295	SW	2000	NO
Living	EW-1	2800	2895	NE	1700	NO
Ensuite 5	EW-1	2800	1690	NE	1700	NO
Bedroom 5	EW-2	2800	5395	NW	100	YES
Bedroom 5	EW-1	2800	5095	NE	1700	NO
Bedroom 4	EW-2	2800	3895	NW	100	NO
Bedroom 4	EW-2	2800	500	NE	100	YES
Ensuite 4	EW-2	2800	1690	NW	100	NO
Ensuite 3	EW-2	2800	1590	NW	100	NO
Bedroom 3	EW-2	2800	5595	SW	2000	NO
Bedroom 3	EW-2	2800	3895	NW	100	NO
Entry	EW-1	3150	600	SE	3000	YES
Entry	EW-1	3150	2400	NE	600	YES
Entry	EW-1	2825	1800	SE	600	YES
Entry	EW-1	2825	700	NE	2400	YES
Entry	EW-1	2825	2995	SE	600	YES
Entry	EW-2	3150	2895	NE	2200	YES
Master Ensuite	EW-2	2650	1600	NE	600	YES
Master Ensuite	EW-2	2900	4695	SE	600	NO
Master Bed	EW-2	2900	4495	SE	600	NO
Master Bed	EW-2	2500	9295	SW	600	NO
Office	EW-2	2500	5095	SW	600	NO
Office	EW-2	2900	7195	NW	600	NO
Garage 1	EW-3	2775	6995	NW	600	NO
Garage 1	EW-4	3150	6800	NE	600	NO
Garage 1	EW-4	3150	1600	SE	3500	YES
Entry	EW-2	2775	1990	NW	600	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		370.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		32.00	Bulk Insulation, No Air Gap R2.5

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	163.70	None	No Insulation	Bare
Scullery	Concrete Slab on Ground 100mm	9.50	None	No Insulation	Bare
Laundry	Concrete Slab on Ground 100mm	13.70	None	No Insulation	Ceramic Tiles 8mm
Powder	Concrete Slab on Ground 100mm	5.50	None	No Insulation	Ceramic Tiles 8mm
Home Theatre	Concrete Slab on Ground 100mm	36.20	None	No Insulation	Bare
Ensuite 2/Kitchen/Living	Concrete Above Plasterboard 200mm	8.00		No Insulation	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Concrete Above Plasterboard 200mm	21.10		No Insulation	Cork Tiles or Parquetry 8mm
Living/Kitchen/Living	Concrete Above Plasterboard 200mm	101.70		No Insulation	20/80 Ceramic/Cork
Living/Home Theatre	Concrete Above Plasterboard 200mm	2.20		No Insulation	20/80 Ceramic/Cork
Ensuite 5/Home Theatre	Concrete Above Plasterboard 200mm	6.50		No Insulation	Ceramic Tiles 8mm
Bedroom 5/Home Theatre	Concrete Above Plasterboard 200mm	27.10		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 4/Kitchen/Living	Concrete Above Plasterboard 200mm	0.70		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 4/Scullery	Concrete Above Plasterboard 200mm	2.00		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 4/Laundry	Concrete Above Plasterboard 200mm	13.90		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 4/Powder	Concrete Above Plasterboard 200mm	5.60		No Insulation	Cork Tiles or Parquetry 8mm
Ensuite 4/Scullery	Concrete Above Plasterboard 200mm	7.00		No Insulation	Ceramic Tiles 8mm
Ensuite 3/Kitchen/Living	Concrete Above Plasterboard 200mm	6.60		No Insulation	Ceramic Tiles 8mm

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 3/Kitchen/Living	Concrete Above Plasterboard 200mm	22.70		No Insulation	Cork Tiles or Parquetry 8mm
Entry/Living	Concrete Above Plasterboard 150mm	28.80		No Insulation	Ceramic Tiles 8mm
Master Ensuite/Ensuite 2	Concrete Above Plasterboard 150mm	7.20		No Insulation	Ceramic Tiles 8mm
Master Ensuite/Bedroom 2	Concrete Above Plasterboard 150mm	10.60		No Insulation	Ceramic Tiles 8mm
Master Bed/Ensuite 2	Concrete Above Plasterboard 150mm	0.90		No Insulation	Carpet+Rubber Underlay 18mm
Master Bed/Bedroom 2	Concrete Above Plasterboard 150mm	10.40		No Insulation	Carpet+Rubber Underlay 18mm
Master Bed/Living	Concrete Above Plasterboard 150mm	46.60		No Insulation	Carpet+Rubber Underlay 18mm
Office/Living	Concrete Above Plasterboard 150mm	1.40		No Insulation	Carpet+Rubber Underlay 18mm
Office/Bedroom 4	Concrete Above Plasterboard 150mm	10.60		No Insulation	Carpet+Rubber Underlay 18mm
Office/Ensuite 4	Concrete Above Plasterboard 150mm	6.50		No Insulation	Carpet+Rubber Underlay 18mm
Office/Ensuite 3	Concrete Above Plasterboard 150mm	6.10		No Insulation	Carpet+Rubber Underlay 18mm
Office/Bedroom 3	Concrete Above Plasterboard 150mm	11.50		No Insulation	Carpet+Rubber Underlay 18mm
Garage 1/Living	Concrete Above Plasterboard 100mm	2.20		No Insulation	Bare
Garage 1/Ensuite 5	Concrete Above Plasterboard 100mm	6.90		No Insulation	Bare
Garage 1/Bedroom 5	Concrete Above Plasterboard 100mm	27.20		No Insulation	Bare
Garage 1	Concrete Slab on Ground 100mm	10.80	None	No Insulation	Bare
Entry/Living	Concrete Above Plasterboard 150mm	7.50		No Insulation	Carpet+Rubber Underlay 18mm
Entry/Bedroom 4	Concrete Above Plasterboard 150mm	9.70		No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Scullery	Concrete Above Plasterboard	No Insulation	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Laundry	Concrete Above Plasterboard	No Insulation	No
Powder	Concrete Above Plasterboard	No Insulation	No
Home Theatre	Concrete Above Plasterboard	No Insulation	No
Ensuite 2	Concrete Above Plasterboard	No Insulation	No
Bedroom 2	Concrete Above Plasterboard	No Insulation	No
Living	Concrete, Plasterboard	Bulk Insulation R3	No
Living	Concrete Above Plasterboard	No Insulation	No
Ensuite 5	Concrete Above Plasterboard	No Insulation	No
Bedroom 5	Concrete Above Plasterboard	No Insulation	No
Bedroom 4	Concrete, Plasterboard	Bulk Insulation R3	No
Bedroom 4	Concrete Above Plasterboard	No Insulation	No
Ensuite 4	Concrete, Plasterboard	Bulk Insulation R3	No
Ensuite 4	Concrete Above Plasterboard	No Insulation	No
Ensuite 3	Concrete, Plasterboard	Bulk Insulation R3	No
Ensuite 3	Concrete Above Plasterboard	No Insulation	No
Bedroom 3	Concrete, Plasterboard	Bulk Insulation R3	No
Bedroom 3	Concrete Above Plasterboard	No Insulation	No
Entry	Plasterboard	Bulk Insulation R3	No
Master Ensuite	Plasterboard	Bulk Insulation R3	No
Master Bed	Plasterboard	Bulk Insulation R3	No
Office	Plasterboard	Bulk Insulation R3	No
Garage 1	Plasterboard	Bulk Insulation R3	No
Entry	Plasterboard	Bulk Insulation R3	No

### Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	29	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Scullery	2	Downlights - LED	150	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Laundry	2	Downlights - LED	150	Sealed
Laundry	1	Exhaust Fans	300	Sealed
Powder	1	Downlights - LED	150	Sealed
Powder	1	Exhaust Fans	300	Sealed
Home Theatre	6	Downlights - LED	150	Sealed
Ensuite 2	2	Downlights - LED	150	Sealed
Ensuite 2	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Living	13	Downlights - LED	150	Sealed
Ensuite 5	2	Downlights - LED	150	Sealed
Ensuite 5	1	Exhaust Fans	300	Sealed
Bedroom 5	4	Downlights - LED	150	Sealed
Bedroom 4	4	Downlights - LED	150	Sealed
Ensuite 4	2	Downlights - LED	150	Sealed
Ensuite 4	1	Exhaust Fans	300	Sealed
Ensuite 3	2	Downlights - LED	150	Sealed
Ensuite 3	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Entry	6	Downlights - LED	150	Sealed
Master Ensuite	4	Downlights - LED	150	Sealed
Master Ensuite	1	Exhaust Fans	300	Sealed
Master Bed	14	Downlights - LED	150	Sealed
Office	8	Downlights - LED	150	Sealed
Garage 1	9	Downlights - LED	150	Sealed
Entry	4	Downlights - LED	150	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.73	Dark

## Explanatory notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap (also known as foil)</b>	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
<b>Shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
<b>Skylight (also known as roof lights)</b>	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).