Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-VG4Y43-03

Generated on 30 May 2025 using Hero 4.1 (Chenath v3.23)

Property

Address	East, 33 Undercliff Road, Freshwater, NSW, 2096
Lot/DP	19/17127
NCC Class*	1a
Floor/all Floors	1 of 4 floors
Type	New

Plans

Main Plan	TBA
Prepared by	Action Plans

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	191.5	Suburban	
Unconditioned*	1.8	**NatHERS climate zone**	
Total	272.0	56 - Mascot AMO	
Garage	78.6		

Accredited assessor

Name	David Gradwell
Business name	Gradwell Consulting
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Phone	+61 408964139
Accreditation No.	DMN/12/1451
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

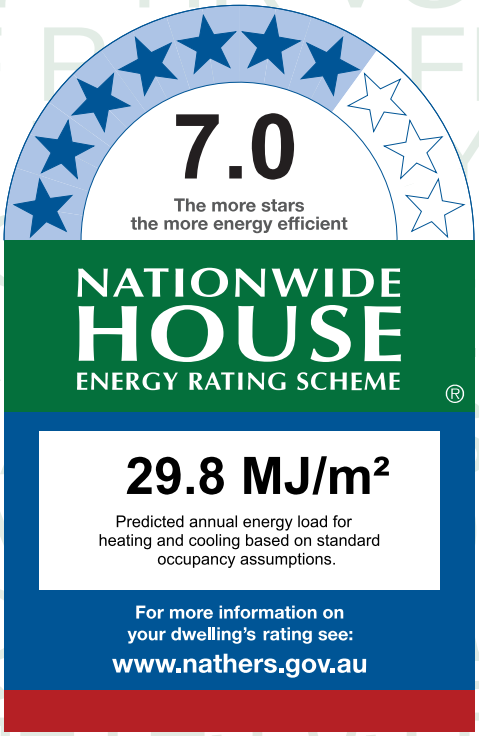
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	14.6	15.2
Load limits	25	18

Features determining load limits

Floor type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan	N

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-VG4Y43-03. When using either link, ensure you are visiting http://www.hero-software.com.au

* Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating and Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG - Concrete Slab on Ground
- SF - Suspended Floor (or a mixture of CSOG and SF)
- NA - Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA - Not Applicable

Outdoor living area:

- Yes
- No
- NA - Not Applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

* Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'External wall type table'* on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certifi cate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	☐	☐	☐	☐	☐

* Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

* Refer to glossary.

Room *schedule*

Room	Zone Type	Area (m²)
Lift Garage	Day Time	2.07
Entry	Day Time	7.05
Garage	Garage	78.63
Lift GF	Day Time	2.07
Bed 1	Bedroom	13.26
ENS	Night Time	5.70
Master	Bedroom	20.22
F Bath	Day Time	7.98
WIR	Day Time	5.02
Hall	Day Time	18.82
Lift L1	Day Time	2.07
PWD	Day Time	1.77
Kitchen/Living	Kitchen/Living	74.50
WC	Unconditioned	1.80
Lift L2	Day Time	2.07
2nd Living	Living	21.82
Bed 2	Bedroom	13.19
ENS	Night Time	4.21

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

* Refer to glossary.

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALS-009-21 A	Commercial Sliding Door SG AGG 6EA	5.0	0.53	0.50	0.56
DOW-025-03 B	TB Aluminium Sliding Door DG 5Clr/12Ar/5Clr	2.7	0.60	0.57	0.63

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
2nd Living	DOW-025-03 B	D03	2100	2600	Sliding Door	45	NNE	None
2nd Living	DOW-025-03 B	D04	2100	2250	Sliding Door	45	SSW	None
2nd Living	ALM-002-03 A	W12	600	2250	Louvre	90	SSW	None
2nd Living	ALM-002-03 A	W23A	1100	1200	Fixed	0	SSW	None
Bed 1	ALS-009-21 A	W17	800	2700	Sliding	45	ESE	None
Bed 2	ALS-009-21 A	W18	800	2700	Sliding	45	ESE	None
ENS	ALM-002-03 A	W16	1700	900	Louvre	10	ESE	None
ENS	ALS-009-21 A	W19	800	1500	Sliding	45	ESE	None
Kitchen/Living	ALM-002-03 A	W20	2300	2400	Fixed	0	ESE	OP-100%
Kitchen/Living	DOW-025-03 B	D06	2600	4400	Sliding Door	60	NNE	None
Kitchen/Living	ALM-002-03 A	W21	2300	5800	Fixed	0	ESE	OP-100%
Lift L2	ALM-002-03 A	W22	2100	1200	Fixed	0	NNE	None
Master	ALS-009-21 A	W15	800	2700	Sliding	45	ESE	None
Master	ALM-002-03 A	W14	2000	4000	Louvre	10	NNE	None
Entry	ALM-002-03 A	W13	2600	1000	Fixed	0	NNE	None
WC	ALM-002-01 A	W23	1100	800	Fixed	0	NNE	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

* Refer to glossary.

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
VEL-011-01 W	FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
2nd Living	VEL-011-01 W	SKYRW 05	0	800	1400	NNE	None	None
2nd Living	VEL-011-01 W	SKYRW 06	0	800	1400	NNE	None	None

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2400	1400	90	NNE
Garage	2400	4000	0	NNE

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
CONC-100-PB-A	Precast 100mm Concrete - Plasterboard Internally	0.50	Medium	2.50	No
CONC-100-PB-B	Precast 100mm Concrete - Plasterboard Internally	0.50	Medium	0.00	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
2nd Living	FC-NOCAV	2100	2677	NNE	1100	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
2nd Living	FC-NOCAV	2900	2956	SSW	150	No
2nd Living	FC-NOCAV	2400	1650	ESE	150	Yes
2nd Living	FC-NOCAV	2100	676	ESE		Yes
2nd Living	FC-NOCAV	2600	1646	ESE	149	Yes
2nd Living	FC-NOCAV	2700	1393	SSW	300	Yes
Bed 1	CONC-100-PB-A	2700	4157	ESE		Yes
Bed 2	CONC-100-PB-A	2700	4134	ESE		Yes
Bed 2	CONC-100-PB-A	1100	3191	SSW		No
Bed 2	CONC-100-PB-A	1600	3191	SSW		No
ENS	FC-NOCAV	2700	2197	ESE	150	Yes
ENS	CONC-100-PB-A	2700	1531	ESE		Yes
Entry	CONC-100-PB-A	2700	1545	NNE	594	Yes
F Bath	CONC-100-PB-A	1100	2690	SSW		No
F Bath	CONC-100-PB-A	1600	2690	SSW		No
Garage	CONC-100-PB-B	2700	4367	NNE	701	Yes
Garage	CONC-100-PB-B	2700	6039	SSW		No
Garage	CONC-100-PB-B	2700	14880	ESE		No
Kitchen/Living	CONC-100-PB-A	3000	6036	SSW		No
Kitchen/Living	CONC-100-PB-A	3000	576	ESE	206	No
Kitchen/Living	FC-NOCAV	3000	864	NNE	4982	Yes
Kitchen/Living	FC-NOCAV	3000	2487	ESE	1164	Yes
Kitchen/Living	FC-NOCAV	3000	5172	NNE	2495	Yes
Kitchen/Living	FC-NOCAV	3000	10499	ESE	300	Yes
Lift L2	CONC-100-PB-A	2100	1482	NNE	109	Yes
Lift L2	CONC-100-PB-A	2100	897	ESE		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Master	FC-NOCAV	2700	4027	ESE	150	Yes
Master	FC-NOCAV	2700	5022	NNE	754	Yes
Entry	FC-NOCAV	2700	1019	NNE	751	Yes
WC	FC-NOCAV	2050	1849	ESE	150	No
WC	FC-NOCAV	2050	972	NNE	300	Yes
WC	FC-NOCAV	2050	972	SSW	300	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-CONC-PB	Internal Concrete Plasterboard Wall	56.0	0.00
INT-PB	Internal Plasterboard Stud Wall	17.9	2.50
INT-PB	Internal Plasterboard Stud Wall	94.3	0.00
Shartliner Party Wall	Shartliner Party Wall	116.7	0.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
2nd Living	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	16.8	N/A	0.00	Timber (12mm)
2nd Living	SUSP-CONC-150-LINED: Suspended Concrete Slab Floor (150mm) - Lined Below	5.0	N/A	1.10	Timber (12mm)
Bed 1	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	13.3	N/A	4.00	Timber (12mm)
Bed 2	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	7.8	N/A	4.00	Timber (12mm)
Bed 2	CSOG-100: Concrete Slab on Ground (100mm)	5.4	N/A	0.00	Timber (12mm)
ENS	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	9.6	N/A	4.00	Tile (8mm)
ENS	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	0.3	N/A	0.00	Tile (8mm)
Entry	CSOG-100: Concrete Slab on Ground (100mm)	7.1	N/A	0.00	Exposed
F Bath	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	3.4	N/A	4.00	Tile (8mm)
F Bath	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	0.00	Tile (8mm)

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	CSOG-100: Concrete Slab on Ground (100mm)	78.6	N/A	0.00	Exposed
Hall	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	1.9	N/A	0.00	Timber (12mm)
Hall	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	16.9	N/A	4.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	61.2	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	13.2	N/A	0.00	Tile (8mm)
Lift GF	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	2.1	N/A	0.00	Exposed
Lift Garage	CSOG-100: Concrete Slab on Ground (100mm)	2.1	N/A	0.00	Exposed
Lift L1	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	2.1	N/A	0.00	Exposed
Lift L2	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	2.1	N/A	0.00	Exposed
Master	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	1.7	N/A	0.00	Timber (12mm)
Master	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	18.5	N/A	4.00	Timber (12mm)
PWD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	1.8	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	1.8	N/A	0.00	Tile (8mm)
WIR	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.0	N/A	4.00	Timber (12mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
2nd Living	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	2.50	Yes
2nd Living	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes
ENS	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes
Garage	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes
Kitchen/Living	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	No
Lift L2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes
Master	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Master	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	No
WC	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
2nd Living	5	Downlight	190	Sealed
Bed 1	3	Downlight	190	Sealed
Bed 2	3	Downlight	190	Sealed
ENS	2	Downlight	190	Sealed
ENS	2	Exhaust Fan	250	Sealed
Entry	3	Downlight	190	Sealed
F Bath	2	Downlight	190	Sealed
F Bath	1	Exhaust Fan	250	Sealed
Hall	3	Downlight	190	Sealed
Kitchen/Living	16	Downlight	190	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Lift L1	1	Downlight	190	Sealed
Master	4	Downlight	190	Sealed
PWD	1	Downlight	190	Sealed
PWD	1	Exhaust Fan	250	Sealed
Void GF	1	Downlight	190	Sealed
WC	1	Downlight	190	Sealed
WC	1	Exhaust Fan	250	Unsealed
WIR	1	Downlight	190	Sealed

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
2nd Living	1	1500
Bed 1	1	1400
Kitchen/Living	1	1500
Master	1	1400

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	1.30	0.50	Medium
FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	1.30	0.50	Medium
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	4.10	0.50	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
None				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]

* Refer to glossary.

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

* Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	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.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, 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.
Conditioned	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.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	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.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	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).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	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 www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	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 www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	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.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	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.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions
Vertical shading features	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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.