



Energy@greenchoiceconsulting.com.au
1300 864 944

Energy Efficiency Report

Address:

15 De Lauret Avenue, Newport, NSW, 2106

Building Classification:

Class 1

GC Consulting Job Number:

ER1-T2241

Client Job Number:

Project 2202

Compliance achieved?

Yes

Date of Report:

9/04/2024



Confidentiality

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Home Performance

Achieved Rating

Total (MJ/m ²)	29.6
Heating (MJ/m ²)	16.8
Cooling (MJ/m ²)	12.8

Target Rating

Total (MJ/m ²)	30
Heating (MJ/m ²)	25.3
Cooling (MJ/m ²)	18.4

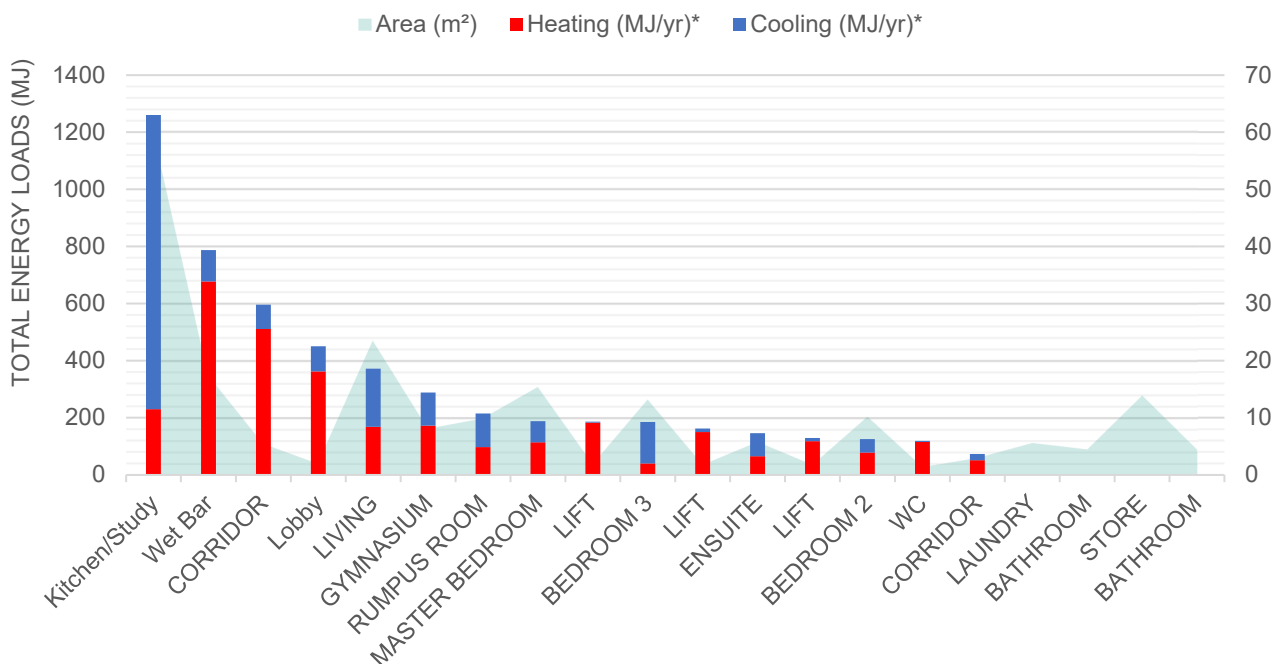
7.0 Stars

Compliance is achieved when the following conditions are met:

1. The Star Rating heating load must be lower than the Limit heating load.
2. The Star Rating cooling load must be lower than the Limit cooling load.
3. The Star Rating total Energy must be lower than the Limit total energy.

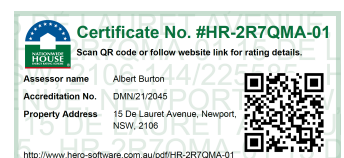
NatHERS Climate Zone: 56

ZONED ENERGY LOAD DISTRIBUTION TOTALS (MJ)



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Building Specifications

External Wall Construction	Insulation	Frame Material	Notes
Framed	R4.0 Insulation	Steel Frame	Living

If a steel frame is nominated, then a thermal break with an R-Value of 0.2 (or greater) must be installed between the frame and any external cladding, if applicable.

Internal Wall Construction	Insulation	Notes
Stud Frame	R4.0 Insulation	Store
Stud Frame	R2.5 Insulation	Remainder

Floor Construction Type/s	Underfloor Insulation	Slab Edge Insulation	Notes
Concrete Slab on Ground	R3.0 Insulation (Rigid)	R3.0 (100mm Rigid)	Ground floor
Suspended Concrete	R6.0 Insulation	None	Ground floor
Framed Suspended	R2.5 Insulation	None	Level 2 internal
Framed Suspended	R6.0 Insulation	None	Outdoor areas

Floor coverings as per drawings/client notes (NatHERS Defaults modelled if not specified)

Ceiling Construction Type	Insulation	Notes
Plasterboard	R7.0 Insulation	Throughout

Roof Construction Type	Insulation	Notes	Colour
Colorbond	R1.3 Anticon	As per drawings	Dune

All ceiling penetrations are to be sealed.

Glazing Supplier
Not Nominated

Ceiling Penetrations
If downlights are installed, must be IC/IC-F Rated

Type	Material	U-Value	SHGC	Glass	Notes
Fixed Windows	Aluminium	1.15	0.44	TB Double Glazed + Low-E	As per documentation
Sliding Doors	Aluminium	1.08	0.27	TB Double Glazed + Low-E	As per documentation
Casement Windows	Aluminium	1.22	0.39	TB Double Glazed + Low-E	As per documentation
Hinged Doors	Aluminium	5.40	0.49	TB Double Glazed + Low-E	As per documentation
Hinged Doors	Aluminium	1.14	0.31	TB Double Glazed + Low-E	As per documentation
Awning Windows	Aluminium	1.22	0.39	TB Double Glazed + Low-E	As per documentation
Fixed Windows	Aluminium	5.40	0.58	TB Double Glazed + Low-E	As per documentation

D07, D08 & D25 to have an insulated core with 25mm XPS.

If the window type is default A the values apply to the following window/door types: Awning, Bi-Fold, Casement, hinged, French and Tilt'n'turn windows.

If the window type is default B the values apply to the following window/door types: Fixed, Double-Hung, Louvre, Sliding, and stacker.

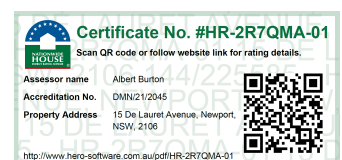
A 5% tolerance is allowed to the nominated SHGC values. The U-Value must be the same or lower than the nominated values.

Your NatHERS Certificate may show codes for other suppliers. In some instances, suppliers do not have all their windows available in the database.

Please contact us if your supplier does not meet the values noted above.


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Declaration of Compliance

I certify that the details provided within this energy efficiency report are true, correct, and reflective of the plans and specifications of this dwelling. I certify that I am a specialist in the relevant discipline and compliance has been demonstrated with the requirements of the National Construction Code (NCC) as outlined in this report.

Name of assessor: Albert Burton
Qualification: CPP41212 Certificate IV in NatHERS Assessment
Accreditation number: DMN/21/2045
Signature: 
Company Name: Green Choice Consulting Pty Ltd (ABN 63 658 893 415)

Green Choice Consulting Pty Ltd (ACN 658 893 415) holds no responsibility if the project is not constructed in accordance with the requirements of the current National Construction Code (NCC) or and/or the requirements detailed in this report. Any changes to the design elements of the building may void this assessment and require the project to be recertified to confirm compliance.

Provisions for this assessment

This assessment demonstrates compliance with Part H6 of the NCC. Calculations have been done using Hero and the Chenath Engine (v3.22).

- (1) Building must comply with Section 13 of the ABCB Housing Provisions clauses—
 - (a) 13.2.2, for building fabric thermal insulation; and
 - (b) 13.2.3(7) and 13.2.5(5), for thermal breaks; and
 - (c) 13.2.3(5), for compensating for a loss of ceiling insulation, other than where the *house energy rating software* has compensated for a loss of ceiling insulation; and
 - (d) 13.2.6(4), 13.2.6(5) and 13.2.6(6) for floor edge insulation; and
 - (e) Part 13.4, for building sealing
- (2) To comply with H6P2, in addition to S42C3, a building must comply with Part 13.7 of the ABC Housing Provisions.

Services must be installed as per Part 13.7.

All metal roof framing must have a thermal break, consisting of a material with an R-Value of greater than or equal to 0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.

All metal wall framing must have a thermal break, consisting of a material with an R-Value greater than or equal to 0.2, installed between the external cladding and the metal frame.

QLD only provisions (to apply if this project is in QLD)

In accordance with the Queensland Development Code Part 4.1—

For applying S42C2 of Specification 42 of the BCA, a reference to climate zones 1 and 2 is taken to be a reference to climate zones 1, 2, 3 or 5.

Toilet cisterns must have a dual flush function, minimum 4-star WELS rating and be compatible with the size of the toilet bowl to allow for proper functioning of the toilet.

WA only provisions (to apply if this project is in WA)

All tap fittings other than bath outlets and garden taps must be a minimum of 4 stars WELS rated.

All showerheads must be a minimum of 3 stars WELS rated.

All sanitary flushing systems must be a minimum of 4 stars WELS rated dual flush.

An outdoor private swimming pool or spa associated with a Class 1 building must be supplied with a cover, blanket or the like that is designed to reduce water evaporation and is accredited under the Smart Approved Watermark Scheme governed by the Australian Water Association, the Irrigation Association of Australia, the Nursery and Garden Industry Australia and the Water Services Association of Australia.

All internal heated water outlets (such as taps, showers and washing machine water supply fittings) must be connected to a heated water system or a re-circulating heated water system with pipes installed and insulated in accordance with AS/NZS 3500: Plumbing and Drainage, Part 4 Heated Water Services. The pipe from the heated water system or re-circulating heated water system to the furthest heated water outlet must not be more than 20 m in length or 2 liters of internal volume.

NSW only provisions (to apply if this project is in NSW)

All requirements in this report are in accordance with the BASIX requirements.

All insulation must be installed as per NSW H6P1.

Building must be sealed as per NSW H6P2.

Domestic services must be selected and have features as per NSW H6P3.

Energy Efficiency Report

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Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. #HR-2R7QMA-01

Generated on 09 Apr 2024 using Hero 4.0 (Chenath v3.23)

Property

Address	15 De Lauret Avenue, Newport, NSW, 2106
Lot/DP	144/225585
NCC Class*	1a
Floor/all Floors	1 of 3 floors
Type	New

Plans

Main Plan	Proj. 2202
Prepared by	Molitor Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 179.0	Suburban
Unconditioned* 28.5	NatHERS climate zone
Total 207.5	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Albert Burton
Business name	Green Choice Consulting
Email	albert@greenchoiceconsulting.com.au
Phone	+61 045219132
Accreditation No.	DMN/21/2045
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

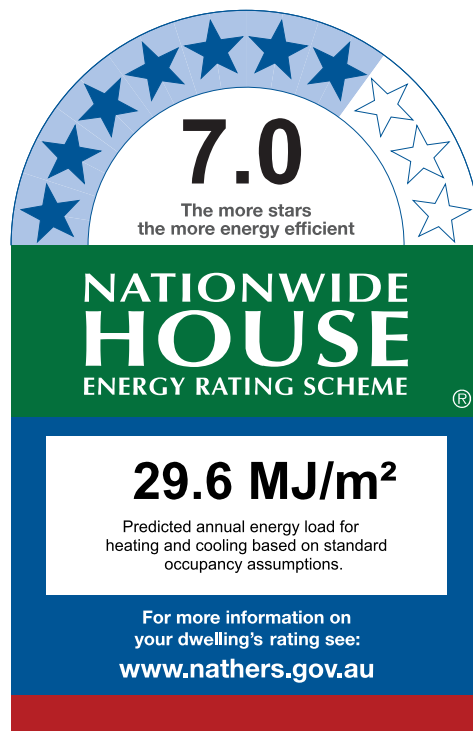
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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	16.8	12.8
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-2R7QMA-01>

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.

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 Certificate?

☐☐☐☐☐

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?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the heating 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
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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.

Room schedule

Room	Zone Type	Area (m ²)
LIVING	Living	23.52
GYMNASIUM	Day Time	8.09
WC	Day Time	1.42
RUMPUS ROOM	Living	9.88
CORRIDOR	Day Time	3.05
LAUNDRY	Unconditioned	5.63
LIFT	Day Time	1.85
BATHROOM	Unconditioned	4.53
BEDROOM 3	Bedroom	13.17
Wet Bar	Day Time	17.53
STORE	Unconditioned	13.90
Kitchen/Study	Kitchen/Living	60.12
LIFT	Day Time	1.82
BATHROOM	Unconditioned	4.43
BEDROOM 2	Bedroom	10.24
MASTER BEDROOM	Bedroom	15.43
ENSUITE	Night Time	5.85
CORRIDOR	Day Time	5.48
LIFT	Day Time	1.76
Lobby	Day Time	1.98

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-001-03 A	Aluminium A SG High Solar Gain Low-E	5.40	0.49	0.47	0.51
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.40	0.58	0.55	0.61

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
MAR-025-11 W	Clad Ultimate Awning TG 3LoE 180 / 8Kr-Ar / 3clr / 8Kr-Ar / 3LoE 180	1.22	0.39	0.37	0.41
PRO-013-06 W	70mm System Opening Outward Opening door TG AGGPLUS2Clr_4-12Ar-4-12Ar-4	1.14	0.31	0.29	0.33
SOV-010-12 W	600 Series Sliding Door w/ Foam Infill-TPS 4LE272/12Ar/4 /12Ar/4LE272	1.08	0.27	0.26	0.28
SOV-026-10 W	300 Fixed Window w/ Foam Infill-TPS 4EA/12Ar/4/12Ar/4EA	1.15	0.44	0.42	0.46

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BATHROOM	ALM-001-03 A	D05 uncond	2100	920	Hinged Door	90	WSW	None
BATHROOM	ALM-002-03 A	W21 uncond	600	900	Fixed	0	ENE	None
BEDROOM 2	PRO-013-06 W	D17	2100	1800	Hinged Door	45	WSW	None
BEDROOM 3	SOV-026-10 W	W06	1150	829	Fixed	0	WSW	None
BEDROOM 3	SOV-026-10 W	W05	1150	1125	Fixed	0	WSW	None
BEDROOM 3	PRO-013-06 W	D06	2100	920	Hinged Door	90	WSW	None
CORRIDOR	SOV-026-10 W	W12	2400	350	Fixed	0	ENE	None
ENSUITE	MAR-025-11 W	W19	600	2400	Awning	90	ENE	None
ENSUITE	MAR-025-11 W	W20	600	900	Awning	90	ENE	None
GYMNASIUM	SOV-010-12 W	D02	2100	1800	Sliding Door	45	W	OP-100%
Kitchen/Study	MAR-025-11 W	W16	600	2700	Awning	45	W	OP-100%
Kitchen/Study	PRO-013-06 W	D16	2100	1800	Hinged Door	45	W	OP-100%

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Kitchen/Study	MAR-025-11 W	W15	1500	900	Awning	60	W	OP-100%
Kitchen/Study	SOV-026-10 W	W14	750	900	Fixed	0	W	OP-100%
Kitchen/Study	MAR-025-11 W	W20	1900	800	Awning	45	W	OP-100%
Kitchen/Study	SOV-026-10 W	W11a	2000	530	Fixed	0	NNE	None
Kitchen/Study	SOV-026-10 W	W10a	2000	530	Fixed	0	NE	None
Kitchen/Study	SOV-026-10 W	W09a	2000	530	Fixed	0	ESE	None
Kitchen/Study	SOV-026-10 W	W08a	2000	530	Fixed	0	SSE	None
Kitchen/Study	MAR-025-11 W	W22	2400	2400	Awning	45	S	OP-100%
LIVING	SOV-026-10 W	W11	500	530	Fixed	0	NNE	None
LIVING	SOV-026-10 W	W10	840	530	Fixed	0	ENE	None
LIVING	SOV-026-10 W	W09	1730	530	Fixed	0	ESE	None
LIVING	SOV-026-10 W	W08	2250	530	Fixed	0	SSE	None
LIVING	SOV-010-12 W	D01	2200	2400	Sliding Door	60	S	OP-100%
LIVING	MAR-025-11 W	W04	2100	900	Casement	90	WSW	OP-100%
LIVING	SOV-026-10 W	W03	650	900	Fixed	0	WSW	OP-100%
LIVING	MAR-025-11 W	W01	1200	900	Casement	90	WSW	OP-100%
Lobby	SOV-026-10 W	W13	2400	350	Fixed	0	N	None
MASTER BEDROOM	SOV-026-10 W	W17	1200	1150	Fixed	0	WSW	None
MASTER BEDROOM	PRO-013-06 W	D18	2100	920	Hinged Door	90	WSW	None
MASTER BEDROOM	SOV-026-10 W	W18	1200	805	Fixed	0	WSW	None
RUMPUS ROOM	SOV-010-12 W	D03	2100	2400	Sliding Door	60	W	OP-100%
STORE	MAR-025-11 W	W07	600	1200	Awning	90	ENE	None
Wet Bar	SOV-010-12 W	D04	2100	2400	Sliding Door	60	WSW	None
Wet Bar	SOV-026-10 W	W02	2400	350	Fixed	0	ENE	None

* Refer to glossary.



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					

Custom* roof windows

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

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
CORRIDOR	2400	820	90	ENE
LAUNDRY	2100	820	90	NNW
Lobby	2400	820	90	N
STORE	2120	820	90	SSE
Wet Bar	2400	820	90	ENE

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
S-FS	External Stud Wall	0.50	Medium	4.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATHROOM	S-FS	2400	1761	WSW	1982	Yes
BATHROOM	S-FS	2400	2436	ENE		Yes
BATHROOM	S-FS	2400	1935	NNW		Yes
BEDROOM 2	S-FS	2400	4144	WSW	3190	Yes
BEDROOM 3	S-FS	2400	427	SSE		Yes
BEDROOM 3	S-FS	2400	829	WSW		No
BEDROOM 3	S-FS	2400	3936	NNW		Yes
BEDROOM 3	S-FS	2400	2748	WSW	1949	Yes
CORRIDOR	S-FS	2400	2444	E		Yes
CORRIDOR	S-FS	2400	4859	ENE	2038	Yes
ENSUITE	S-FS	2400	1933	SSE	4627	Yes
ENSUITE	S-FS	2400	1300	NNW		Yes
ENSUITE	S-FS	2400	3555	ENE		Yes
GYMNASIUM	S-FS	2400	2011	W	3029	Yes
Kitchen/Study	S-FS	3000	9234	W	1754	Yes
Kitchen/Study	S-FS	2400	687	WSW	3197	Yes
Kitchen/Study	S-FS	2400	491	S	8817	Yes
Kitchen/Study	S-FS	2500	3410	E	807	Yes
Kitchen/Study	S-FS	2500	350	N		Yes
Kitchen/Study	S-FS	2500	645	NNE		Yes
Kitchen/Study	S-FS	2500	432	NE		Yes
Kitchen/Study	S-FS	2500	599	NE		Yes
Kitchen/Study	S-FS	2500	302	ENE		Yes
Kitchen/Study	S-FS	2500	400	E		Yes
Kitchen/Study	S-FS	2500	424	E		Yes

* Refer to glossary.



External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Kitchen/Study	S-FS	2500	382	ESE		Yes
Kitchen/Study	S-FS	2500	564	ESE		Yes
Kitchen/Study	S-FS	2500	596	SE		Yes
Kitchen/Study	S-FS	2500	542	SSE		Yes
Kitchen/Study	S-FS	2500	366	S		Yes
Kitchen/Study	S-FS	2500	1443	E	770	Yes
Kitchen/Study	S-FS	2800	5039	S	922	Yes
Kitchen/Study	S-FS	2400	944	W	3185	Yes
LAUNDRY	S-FS	2400	498	S		Yes
LAUNDRY	S-FS	2400	862	E		Yes
LAUNDRY	S-FS	2400	1422	NNW		Yes
LIFT	S-FS	2400	1218	SSE		Yes
LIFT	S-FS	2400	1509	ENE		Yes
LIFT	S-FS	2400	1233	NNW		Yes
LIFT	S-FS	2400	1204	SSE	8737	Yes
LIFT	S-FS	2400	1505	E		Yes
LIFT	S-FS	2400	733	NNW		Yes
LIFT	S-FS	2400	1171	SSE		No
LIFT	S-FS	2400	1200	N	10902	Yes
LIFT	S-FS	2400	1475	E		No
LIVING	S-FS	2400	652	NNE		Yes
LIVING	S-FS	2400	620	NE		Yes
LIVING	S-FS	2400	607	ENE		Yes
LIVING	S-FS	2400	506	ENE		Yes
LIVING	S-FS	2400	559	E		Yes

* Refer to glossary.



External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
LIVING	S-FS	2400	442	ESE		Yes
LIVING	S-FS	2400	585	ESE		Yes
LIVING	S-FS	2400	599	SE		Yes
LIVING	S-FS	2400	819	SSE		Yes
LIVING	S-FS	2400	1453	E		Yes
LIVING	S-FS	2400	4004	S		Yes
LIVING	S-FS	2400	3408	WSW	518	Yes
LIVING	S-FS	2400	815	W	2974	Yes
Lobby	S-FS	2400	1532	WSW	2726	No
Lobby	S-FS	2400	1366	N	10892	Yes
Lobby	S-FS	2400	1237	SSE		No
MASTER BEDROOM	S-FS	2400	3429	WSW		Yes
MASTER BEDROOM	S-FS	2400	456	SSE		Yes
MASTER BEDROOM	S-FS	2400	805	WSW		No
MASTER BEDROOM	S-FS	2400	4576	NNW		Yes
RUMPUS ROOM	S-FS	2400	3744	W	3037	Yes
STORE	S-FS	2400	901	SSE		Yes
STORE	S-FS	2400	1864	NNW		Yes
STORE	S-FS	2400	6558	ENE		Yes
STORE	S-FS	2400	1802	ENE		Yes
STORE	S-FS	2400	1024	SSE		Yes
Wet Bar	S-FS	2400	3718	WSW	3014	Yes
Wet Bar	S-FS	2400	2450	ENE		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m ²)	Bulk insulation
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Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	99.1	2.50
INT-PB	Internal Plasterboard Stud Wall	19.8	4.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
BATHROOM	CSOG-100: Concrete Slab on Ground (100mm)	4.5	N/A	3.00	Tile (8mm)
BATHROOM	TIMB-001: Suspended Timber Floor	4.4	N/A	2.50	Tile (8mm)
BEDROOM 2	TIMB-001: Suspended Timber Floor	10.2	N/A	2.50	Carpet
BEDROOM 3	CSOG-100: Concrete Slab on Ground (100mm)	13.2	N/A	3.00	Carpet
CORRIDOR	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	3.0	N/A	6.00	Carpet
CORRIDOR	TIMB-001: Suspended Timber Floor	5.5	N/A	2.50	Carpet
ENSUITE	TIMB-001: Suspended Timber Floor	5.8	N/A	2.50	Tile (8mm)
ENSUITE	TIMB-001: Suspended Timber Floor	0.1	N/A	2.50	Timber (12mm)
GYMNASIUM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	8.1	N/A	6.00	Carpet
Kitchen/Study	TIMB-001: Suspended Timber Floor	58.5	N/A	2.50	Tile (8mm)
Kitchen/Study	TIMB-001: Suspended Timber Floor	1.7	N/A	6.00	Tile (8mm)
LAUNDRY	CSOG-100: Concrete Slab on Ground (100mm)	5.6	N/A	3.00	Tile (8mm)
LIFT	CSOG-100: Concrete Slab on Ground (100mm)	1.9	N/A	3.00	Carpet
LIFT	TIMB-001: Suspended Timber Floor	3.6	N/A	2.50	Carpet
LIVING	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	23.5	N/A	6.00	Carpet
Lobby	TIMB-001: Suspended Timber Floor	2.0	N/A	2.50	Carpet
MASTER BEDROOM	TIMB-001: Suspended Timber Floor	15.3	N/A	2.50	Carpet
RUMPUS ROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	9.9	N/A	6.00	Carpet
STORE	CSOG-100: Concrete Slab on Ground (100mm)	13.9	N/A	3.00	Carpet
WC	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	1.4	N/A	6.00	Tile (8mm)
Wet Bar	CSOG-100: Concrete Slab on Ground (100mm)	17.5	N/A	3.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BATHROOM	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
BEDROOM 2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
CORRIDOR	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
ENSUITE	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
Kitchen/Study	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
LIFT	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
LIVING	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
Lobby	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No
MASTER BEDROOM	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	7.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATHROOM	2	Downlight	100	Sealed
BATHROOM	2	Exhaust Fan	350	Sealed
BEDROOM 2	4	Downlight	100	Sealed
BEDROOM 3	4	Downlight	100	Sealed
CORRIDOR	3	Downlight	100	Sealed
ENSUITE	2	Downlight	100	Sealed
ENSUITE	1	Exhaust Fan	350	Sealed
GYMNASIUM	2	Downlight	100	Sealed
Kitchen/Study	24	Downlight	100	Sealed
Kitchen/Study	1	Exhaust Fan	350	Sealed
LAUNDRY	1	Downlight	100	Sealed
LAUNDRY	1	Exhaust Fan	350	Sealed
LIFT	3	Downlight	100	Sealed
LIVING	9	Downlight	100	Sealed

* Refer to glossary.



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Lobby	1	Downlight	100	Sealed
MASTER BEDROOM	6	Downlight	100	Sealed
RUMPUS ROOM	2	Downlight	100	Sealed
STORE	5	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed
Wet Bar	7	Downlight	100	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
BEDROOM 2	1	900
BEDROOM 3	1	900
Kitchen/Study	2	1800
LIVING	1	1500
MASTER BEDROOM	1	900
RUMPUS ROOM	1	900
Wet Bar	1	900

Roof type

Construction	Added insulation (R-value)	Solar absorbptance	Roof Colour
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	1.30	0.48	Medium (Dune)

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)
Wall	90 x 36	450	0.75	Yes (R0.20)
Floor	100 x 50	450	1.50	Yes (R0.20)
Ceiling	200 x 75	900	1.50	Yes (R0.20)
Ceiling	100 x 50	450	1.50	Yes (R0.20)

* Refer to glossary.



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)
Roof	200 x 75	900	1.50	Yes (R0.20)
Roof	100 x 50	450	1.50	Yes (R0.20)

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]
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	

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 home's 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 home's 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.