Nationwide House Energy Rating Scheme®
Multiple Class 1 dwellings Summary
NatHERS® Certificate No. 0011656570

Generated on 13 Jan 2025 using BERS Pro v5.2.4 (3.23)

Property

Address	85 Ely Street, Revesby , NSW , 2212
Lot/DP	Lot 22 DP 2343
NatHERS Climate Zone	56 Mascot (Sydney Airport)

Accredited assessor

Name	Ian Fry
Business name	Frys Energywise
Email	comply@frysenergywise.com.au
Phone	02 9899 2825
Accreditation No.	DMN/12/1441

Assessor Accrediting Organisation

Design Matters National

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=ZrjRLQjhw .
When using either link, ensure you are visiting hstar.com.au

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 J3D3 and J3D15 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.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m^2/p.a.]	Cooling load (load limit) [MJ/m^2/p.a.]	Total load [MJ/m^2/p.a.]	Star Rating	Whole of Home Rating
0011656568	DA	15.8 (N/A)	11.7 (N/A)	27.5	7.3	0
0011656550	DB	23.1 (N/A)	6.4 (N/A)	29.6	7	0

Explanatory notes

About this ratings

Individual unit ratings are listed in the ‘Summary of all dwellings’ section of this Certificate.
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 energy loads and societal cost. 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 production and storage to estimate the homes societal cost .
For more details about an individual dwelling’s assessment, refer to the individual dwelling’s NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality 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.
Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.
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 certificates 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 use, 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 while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Nationwide House Energy Rating Scheme®
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Property

Address	Unit DA, 85 Ely Street, Revesby , NSW , 2212
Lot/DP	Lot 22 DP 2343
NCC class*	1a
Floor/all Floors	G of 2 floors
Type	New Home

Plans

Main plan	Leung Chu RL 6098 Dwelling A
Prepared by	GD

Construction and environment

Assessed floor area [m2]*	
Conditioned*	184.0
Unconditioned*	13.4
Total	219.0
Garage	21.6

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Ian Fry
Business name	Frys Energywise
Email	comply@frysenergywise.com.au
Phone	02 9899 2825
Accreditation No.	DMN/12/1441
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
Strate/Territory variation	Yes

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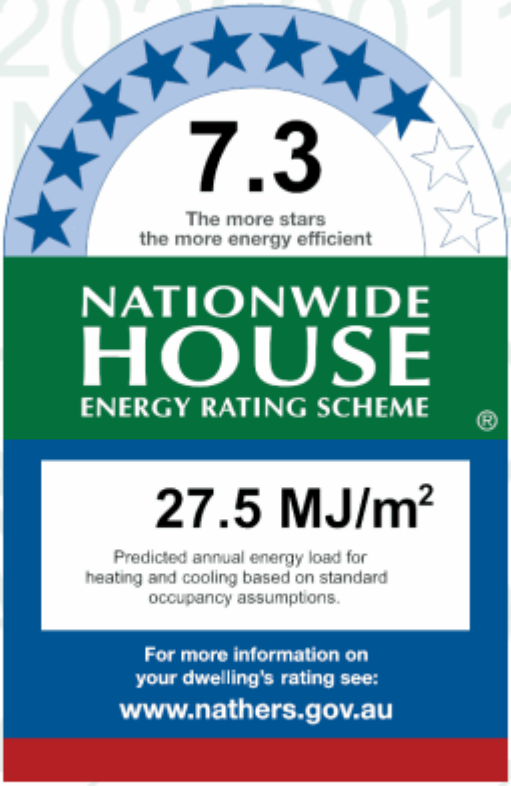
Thermal performance Star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.8	11.7
Load limits	N/A	N/A

Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

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 hstar.com.au/QR/Generate?p=EmlXjZrsw . When using either link, ensure you are visiting hstar.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 & 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 2022: 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

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 by whom each item should be checked. 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	☐	☐	☐	☐	☐

* 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 performance 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.

Additional notes

Where not noted on plans, default selections to floor coverings and external colours have been used in this assessment, as noted in the NatHERS Technical Notes. Alternative selections past this point can be made to floor coverings and external colours, without

* Refer to glossary.

requiring an amended certificate

Room *schedule*

Room	Zone Type	Area [m^2]
Garage	Garage	21.63
Entry	Daytime	27.77
WC	Daytime	1.96
Laundry	Daytime	2.46
Kitchen/Family	Kitchen/Living	56.56
Bed 4	Bedroom	15.57
Powder	Unconditioned	4.64
WIP	Daytime	3.44
Bed 1	Bedroom	17.99
WIR	Nighttime	4.85
Sitting	Living	28.11
Bed 3	Bedroom	12.47
Bed 2	Bedroom	12.94
Bath	Unconditioned	8.72
Ensuite	Nighttime	5.03

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
DOW-002-015	Aluminium Awning Window SG 4ETClr	4.8	0.55	0.52	0.57
DOW-014-015	Aluminium Fixed Window SG 4ETClr	4.3	0.64	0.60	0.67
DOW-001-015	Aluminium Sliding Window SG 4ETClr	4.5	0.63	0.60	0.66
DOW-006-017	Aluminium Sliding Door SG 4ETClr	4.4	0.61	0.58	0.64

* Refer to glossary.

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DOW-001-001	Aluminium Sliding Window SG 3Clr	6.4	0.75	0.71	0.79

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Entry	DOW-002-015-001	W7	429	610	Awning	90	W	No
Entry	DOW-014-015-001	W8	429	610	Fixed	00	W	No
Entry	DOW-014-015-001	W9	429	610	Fixed	00	W	No
Kitchen/Family	DOW-014-015-001	W4	500	2650	Fixed	00	N	No
Kitchen/Family	DOW-001-015-001	W5	1200	2650	Sliding	40	N	No
Kitchen/Family	DOW-006-017-001	W6	2100	5364	Sliding	60	E	No
Bed 4	DOW-001-015-001	W3	1200	2650	Sliding	40	N	No
Powder	DOW-001-001-001	W2	600	850	Sliding	45	N	No
Bed 1	DOW-001-015-001	W13	600	3010	Sliding	10	N	No
Bed 1	DOW-002-015-001	W10	1200	850	Awning	10	W	No
Bed 1	DOW-002-015-001	W11	1200	850	Awning	10	W	No
Bed 1	DOW-002-015-001	W12	1200	1450	Awning	10	W	No
Sitting	DOW-001-015-001	W16	857	2050	Sliding	40	N	No
Bed 3	DOW-001-015-001	W18	600	1810	Sliding	10	E	No
Bed 2	DOW-001-015-001	W17	1200	1810	Sliding	10	E	No
Bath	DOW-001-001-001	W15	857	1810	Sliding	45	N	No
Ensuite	DOW-001-001-001	W14	857	850	Sliding	45	N	No

Roof window* *type and performance value*

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	Skylight shaft reflectance
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame	0.5

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m^2]	Orientation	Outdoor shade	Diffuser
Kitchen/Family	GEN-04-008a	SL1 Family/Meals	540	0.85	N	None	No
Kitchen/Family	GEN-04-008a	SL2 Family/Meals	540	0.85	N	None	No
Sitting	GEN-04-008a	SL1 Sitting	1470	0.77	N	None	No
Sitting	GEN-04-008a	SL 2 Sitting	1470	0.77	N	None	No

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	2400	90	W
Entry	2388	1260	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Timber Stud Frame Brick Veneer	0.30		No insulation	No
EW-2	Single Skin Brick	0.30		No insulation	No
EW-3	Timber Stud Frame Brick Veneer	0.30		Anti-glare foil with bulk no gap R2.5	No
EW-4	Fibro Timber Stud Frame Panel on Battens	0.30		Anti-glare foil with bulk no gap R2.5	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage	EW-1	3043	5500	N	100	No
Garage	EW-1	3043	700	E	100	No
Garage	EW-1	3043	795	N	100	No
Garage	EW-2	3043	3595	W	200	No
Entry	EW-3	2700	1100	N	100	No
Entry	EW-3	2700	2600	W	1100	Yes
Kitchen/Family	EW-3	2700	4795	N	100	No
Kitchen/Family	EW-3	2700	700	W	100	No
Kitchen/Family	EW-3	2700	5000	N	100	No
Kitchen/Family	EW-3	2700	5700	E	6100	Yes
Kitchen/Family	EW-3	2400	500	E	6100	No
Bed 4	EW-3	2700	700	W	100	No
Bed 4	EW-3	2700	4600	N	100	No
Bed 4	EW-3	2700	700	E	100	No
Powder	EW-3	2700	1690	N	100	No
Bed 1	EW-4	2440	3995	N	700	No
Bed 1	EW-3	2440	2600	W	600	Yes
Bed 1	EW-3	2440	500	N	3600	No
Bed 1	EW-4	2440	2900	W	700	No
Sitting	EW-4	2440	2690	N	700	No
Bed 3	EW-4	2440	2695	E	700	No
Bed 2	EW-4	2440	4695	N	700	No
Bed 2	EW-4	2440	2795	E	700	No
Bath	EW-4	2440	3390	N	700	No
Ensuite	EW-4	2440	1690	N	700	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	17.01	Bulk Insulation, No Air Gap R2
IW-002	Timber Stud Frame, Direct Fix Plasterboard	147.88	No insulation

* Refer to glossary.

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-003	AAC, plaster on studs	84.68	Bulk Insulation both sides of shaft liner R2.5

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 100mm	21.57	None	No Insulation	Bare
Entry	Concrete Slab on Ground 100mm	27.77	None	No Insulation	Carpet+Rubber Underlay 18mm
WC	Concrete Slab on Ground 100mm	1.96	None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	2.46	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Family	Concrete Slab on Ground 100mm	56.56	None	No Insulation	80/20 Carpet 10mm/Ceramic
Bed 4	Concrete Slab on Ground 100mm	15.57	None	No Insulation	Carpet+Rubber Underlay 18mm
Powder	Concrete Slab on Ground 100mm	4.64	None	No Insulation	Ceramic Tiles 8mm
WIP	Concrete Slab on Ground 100mm	3.44	None	No Insulation	Ceramic Tiles 8mm
Bed 1 / Garage	Timber Framed Timber Above Plasterboard 19mm	11.33		No Insulation	Carpet+Rubber Underlay 18mm
Bed 1 / Entry	Timber Framed Timber Above Plasterboard 19mm	6.39		No Insulation	Carpet+Rubber Underlay 18mm
WIR / WC	Timber Framed Timber Above Plasterboard 19mm	1.89		No Insulation	Carpet+Rubber Underlay 18mm
WIR / Laundry	Timber Framed Timber Above Plasterboard 19mm	2.41		No Insulation	Carpet+Rubber Underlay 18mm
Sitting / Entry	Timber Framed Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet+Rubber Underlay 18mm
Sitting / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Sitting / Bed 4	Timber Framed Timber Above Plasterboard 19mm	1.04		No Insulation	Carpet+Rubber Underlay 18mm
Sitting / Powder	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Sitting / WIP	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Bed 3 / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	12.23		No Insulation	Carpet+Rubber Underlay 18mm
Bed 2 / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	12.82		No Insulation	Carpet+Rubber Underlay 18mm
Bath / Bed 4	Timber Framed Timber Above Plasterboard 19mm	5.70		No Insulation	Ceramic Tiles 8mm

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bath / Powder	Timber Framed Timber Above Plasterboard 19mm	2.60		No Insulation	Ceramic Tiles 8mm
Ensuite / Garage	Timber Framed Timber Above Plasterboard 19mm	3.24		No Insulation	Ceramic Tiles 8mm
Ensuite / Powder	Timber Framed Timber Above Plasterboard 19mm	1.21		No Insulation	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Plasterboard on Timber	No insulation	
Garage	Timber Framed Timber Above Plasterboard	No Insulation	
Entry	Plasterboard on Timber	Bulk Insulation R6	
Entry	Plasterboard on Timber	Bulk Insulation R3	
Entry	Timber Framed Timber Above Plasterboard	No Insulation	
WC	Timber Framed Timber Above Plasterboard	No Insulation	
Laundry	Timber Framed Timber Above Plasterboard	No Insulation	
Kitchen/Family	Plasterboard on Timber	Bulk Insulation R6	
Kitchen/Family	Plasterboard on Timber	Bulk Insulation R3	
Kitchen/Family	Timber Framed Timber Above Plasterboard	No Insulation	
Bed 4	Plasterboard on Timber	Bulk Insulation R6	
Bed 4	Plasterboard on Timber	Bulk Insulation R3	
Bed 4	Timber Framed Timber Above Plasterboard	No Insulation	
Powder	Timber Framed Timber Above Plasterboard	No Insulation	
WIP	Timber Framed Timber Above Plasterboard	No Insulation	
Bed 1	Plasterboard on Timber	Bulk Insulation R6	
Bed 1	Plasterboard on Timber	Bulk Insulation R3	
WIR	Plasterboard on Timber	Bulk Insulation R6	
Sitting	Plasterboard on Timber	Bulk Insulation R6	
Sitting	Plasterboard on Timber	Bulk Insulation R3	
Bed 3	Plasterboard on Timber	Bulk Insulation R6	
Bed 3	Plasterboard on Timber	Bulk Insulation R3	
Bed 2	Plasterboard on Timber	Bulk Insulation R6	
Bed 2	Plasterboard on Timber	Bulk Insulation R3	

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bath	Plasterboard on Timber	Bulk Insulation R6	
Bath	Plasterboard on Timber	Bulk Insulation R3	
Ensuite	Plasterboard on Timber	Bulk Insulation R6	
Ensuite	Plasterboard on Timber	Bulk Insulation R3	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
WC	1	Exhaust Fans	0	Sealed
Kitchen/Family	1	Exhaust Fans	0	Sealed
Powder	1	Exhaust Fans	0	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
Kitchen/Family	1	1200
Bed 4	1	1200
Bed 1	1	1200

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.30	Light

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]
No Data Available				

Appliance *schedule*

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

Note: A flat assumption of 5W/m^2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

Hot water system

Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					lower limit	upper limit	
No Data Available							

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			

Onsite Renewable Energy *Schedule*

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery *Schedule*

System Type	Size [Battery Storage Capacity]
No Data Available	

* 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

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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.
COP	Coefficient of performance
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.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
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.
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.
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 Regulator (CER)
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 or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme® NatHERS® Certificate No. 0011656550

Generated on 13 Jan 2025 using BERS Pro v5.2.4 (3.23)

Property

Address	Unit DB, 85 Ely Street, Revesby , NSW , 2212
Lot/DP	Lot 22 DP 2343
NCC class*	1a
Floor/all Floors	G of 2 floors
Type	New Home

Plans

Main plan	Leung Chu RL 6098 Dwelling B
Prepared by	GD

Construction and environment

Assessed floor area [m2]*	
Conditioned*	185.2
Unconditioned*	13.0
Total	219.9
Garage	21.6

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Ian Fry
Business name	Frys Energywise
Email	comply@frysenergywise.com.au
Phone	02 9899 2825
Accreditation No.	DMN/12/1441
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
Strate/Territory variation	Yes

National Construction Code (NCC) requirements

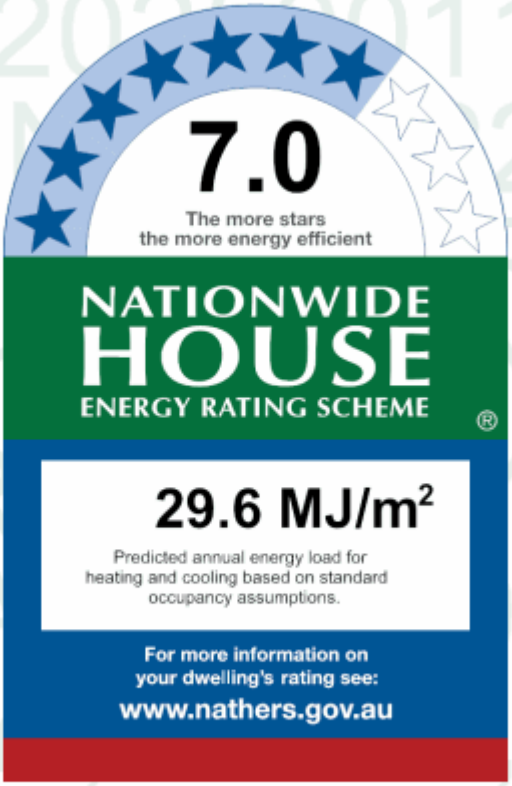
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 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	23.1	6.4
Load limits	N/A	N/A

Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

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 hstar.com.au/QR/Generate?p=dWBMMfUSp . When using either link, ensure you are visiting hstar.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 & 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 2022: 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

Energy use

Greenhouse gas emissions

Cost

* 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 by whom each item should be checked. 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	☐	☐	☐	☐	☐

* 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 performance 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.

Additional notes

Where not noted on plans, default selections to floor coverings and external colours have been used in this assessment, as noted in the NatHERS Technical Notes. Alternative selections past this point can be made to floor coverings and external colours, without

* Refer to glossary.

requiring an amended certificate

Room *schedule*

Room	Zone Type	Area [m^2]
Garage	Garage	21.63
Entry	Daytime	27.73
Linen	Daytime	1.96
Laundry	Daytime	2.46
Kitchen/Family	Kitchen/Living	56.56
Bed 4	Bedroom	15.5
Powder	Unconditioned	4.53
WIP	Daytime	3.44
Bed 1	Bedroom	19.55
WIR	Nighttime	4.85
Sitting	Living	27.94
Bed 3	Bedroom	12.47
Bed 2	Bedroom	12.94
Bath	Unconditioned	8.5
Ensuite	Nighttime	4.98

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
DOW-005-007	Aluminium Awning Window DG LB Clr 4/12/4	3.0	0.45	0.43	0.47
DOW-007-012	Aluminium Sliding Door DG LB Clr 5/6/5	3.1	0.47	0.45	0.49
DOW-034-003	Aluminium Sliding Window DG LB ClrS0 5/10/5	3.2	0.45	0.43	0.47

* Refer to glossary.

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DOW-015-007	Aluminium Fixed Window DG LB Clr 4/12/4	2.5	0.53	0.50	0.55
DOW-001-001	Aluminium Sliding Window SG 3Clr	6.4	0.75	0.71	0.79

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Entry	DOW-005-007-001	W19	1800	610	Awning	30	W	No
Kitchen/Family	DOW-007-012-002	W25	2100	5364	Sliding	60	E	No
Kitchen/Family	DOW-034-003-002	W24	1200	2650	Sliding	40	S	No
Kitchen/Family	DOW-015-007-001	W23	500	2650	Fixed	00	S	No
Kitchen/Family	DOW-015-007-001	S1	400	2410	Fixed	00	N	No
Bed 4	DOW-034-003-002	W22	1200	2650	Sliding	40	S	No
Powder	DOW-001-001-001	W21	600	850	Sliding	45	S	No
Bed 1	DOW-005-007-001	W27	1200	610	Awning	10	W	No
Bed 1	DOW-005-007-001	W28	1200	610	Awning	10	W	No
Bed 1	DOW-005-007-001	W26	1200	2050	Awning	10	W	No
Bed 1	DOW-034-003-002	W29	600	3010	Sliding	10	S	No
Sitting	DOW-034-003-002	W32	857	2050	Sliding	40	S	No
Bed 3	DOW-034-003-002	W34	600	1810	Sliding	10	E	No
Bed 2	DOW-034-003-002	W33	1200	1810	Sliding	10	E	No
Bath	DOW-001-001-001	W31	857	1810	Sliding	45	S	No
Ensuite	DOW-001-001-001	W30	857	850	Sliding	45	S	No

Roof window* *type and performance value*

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	Skylight shaft reflectance
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame	0.5

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m^2]	Orientation	Outdoor shade	Diffuser
Sitting	GEN-04-008a	SL1	1470	0.77	S	None	No
Sitting	GEN-04-008a	SL 2	1470	0.77	S	None	No

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	2400	90	W
Entry	2388	1260	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Single Skin Brick	0.30		No insulation	No
EW-2	Timber Stud Frame Brick Veneer	0.30		No insulation	No
EW-3	Timber Stud Frame Brick Veneer	0.30		Anti-glare foil with bulk no gap R2.5	No
EW-4	Fibro Timber Stud Frame Panel on Battens	0.30		Anti-glare foil with bulk no gap R2.5	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage	EW-1	3043	3595	W	200	No
Garage	EW-2	3043	795	S	100	No
Garage	EW-2	3043	700	E	100	No
Garage	EW-2	3043	5500	S	100	No
Entry	EW-3	2700	2600	W	1400	Yes
Entry	EW-3	2700	1100	S	100	No
Kitchen/Family	EW-3	2400	500	E	6100	No
Kitchen/Family	EW-3	2700	300	E	6100	No
Kitchen/Family	EW-3	3375	5400	E	6100	Yes
Kitchen/Family	EW-3	2700	5000	S	100	No
Kitchen/Family	EW-3	2700	700	W	100	No
Kitchen/Family	EW-3	2700	4795	S	100	No
Bed 4	EW-3	2700	700	E	100	No
Bed 4	EW-3	2700	4600	S	100	No
Bed 4	EW-3	2700	700	W	100	No
Powder	EW-3	2700	1690	S	100	No
Bed 1	EW-4	2440	2900	W	700	No
Bed 1	EW-3	2440	1100	S	3600	No
Bed 1	EW-3	2440	2600	W	600	No
Bed 1	EW-3	2440	400	N	100	No
Bed 1	EW-4	2440	3995	S	700	No
Sitting	EW-4	2440	2690	S	700	No
Bed 3	EW-4	2440	2695	E	700	No
Bed 2	EW-4	2440	2795	E	700	No
Bed 2	EW-4	2440	4695	S	700	No
Bath	EW-4	2440	3390	S	700	No
Ensuite	EW-4	2440	1690	S	700	No

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	43.19	Bulk Insulation, No Air Gap R2
IW-002	AAC, plaster on studs	98.40	Bulk Insulation both sides of shaft liner R2.5
IW-003	Timber Stud Frame, Direct Fix Plasterboard	113.60	No insulation

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 100mm	21.50	None	No Insulation	Bare
Entry	Concrete Slab on Ground 100mm	27.73	None	No Insulation	Carpet+Rubber Underlay 18mm
Linen	Concrete Slab on Ground 100mm	1.96	None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab on Ground 100mm	2.46	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Family	Concrete Slab on Ground 100mm	56.56	None	No Insulation	80/20 Carpet 10mm/Ceramic
Bed 4	Concrete Slab on Ground 100mm	15.50	None	No Insulation	Carpet+Rubber Underlay 18mm
Powder	Concrete Slab on Ground 100mm	4.53	None	No Insulation	Ceramic Tiles 8mm
WIP	Concrete Slab on Ground 100mm	3.44	None	No Insulation	Ceramic Tiles 8mm
Bed 1 / Garage	Timber Framed Timber Above Plasterboard 19mm	11.32		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bed 1 / Entry	Timber Framed Timber Above Plasterboard 19mm	7.95		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
WIR / Linen	Timber Framed Timber Above Plasterboard 19mm	1.89		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
WIR / Laundry	Timber Framed Timber Above Plasterboard 19mm	2.41		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Sitting / Entry	Timber Framed Timber Above Plasterboard 19mm	10.82		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Sitting / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R3	Carpet+Rubber Underlay 18mm

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Sitting / Bed 4	Timber Framed Timber Above Plasterboard 19mm	0.88		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Sitting / Powder	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Sitting / WIP	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bed 3 / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	12.23		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bed 2 / Kitchen/Family	Timber Framed Timber Above Plasterboard 19mm	12.81		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bath / Bed 4	Timber Framed Timber Above Plasterboard 19mm	5.48		Bulk Insulation R3	Ceramic Tiles 8mm
Bath / Powder	Timber Framed Timber Above Plasterboard 19mm	2.38		Bulk Insulation R3	Ceramic Tiles 8mm
Ensuite / Garage	Timber Framed Timber Above Plasterboard 19mm	3.19		Bulk Insulation R3	Ceramic Tiles 8mm
Ensuite / Powder	Timber Framed Timber Above Plasterboard 19mm	1.16		Bulk Insulation R3	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Plasterboard on Timber	No insulation	
Garage	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Entry	Plasterboard on Timber	Bulk Insulation R7	
Entry	Plasterboard on Timber	Bulk Insulation R3	
Entry	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Linen	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Laundry	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Kitchen/Family	Plasterboard on Timber	Bulk Insulation R7	
Kitchen/Family	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Bed 4	Plasterboard on Timber	Bulk Insulation R7	

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bed 4	Plasterboard on Timber	Bulk Insulation R3	
Bed 4	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Powder	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
WIP	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Bed 1	Plasterboard on Timber	Bulk Insulation R7	
Bed 1	Plasterboard on Timber	Bulk Insulation R3	
WIR	Plasterboard on Timber	Bulk Insulation R7	
Sitting	Plasterboard on Timber	Bulk Insulation R7	
Sitting	Plasterboard on Timber	Bulk Insulation R3	
Bed 3	Plasterboard on Timber	Bulk Insulation R7	
Bed 3	Plasterboard on Timber	Bulk Insulation R3	
Bed 2	Plasterboard on Timber	Bulk Insulation R7	
Bed 2	Plasterboard on Timber	Bulk Insulation R3	
Bath	Plasterboard on Timber	Bulk Insulation R7	
Bath	Plasterboard on Timber	Bulk Insulation R3	
Ensuite	Plasterboard on Timber	Bulk Insulation R7	
Ensuite	Plasterboard on Timber	Bulk Insulation R3	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Family	1	Exhaust Fans	0	Sealed
Powder	1	Exhaust Fans	0	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
Kitchen/Family	1	900
Bed 4	1	1200
Bed 1	1	1200
Sitting	1	1200
Bed 3	1	1200

* Refer to glossary.

Location	Quantity	Diameter [mm]
Bed 2	1	1200

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.30	Light

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]
No Data Available				

Appliance *schedule*

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

Note: A flat assumption of 5W/m^2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

Hot water system

Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					lower limit	upper limit	
No Data Available							

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			

* Refer to glossary.

Onsite Renewable Energy *Schedule*

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery *Schedule*

System Type	Size [Battery Storage Capacity]
No Data Available	

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

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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.
COP	Coefficient of performance
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.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
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.
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.
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 Regulator (CER)
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 or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)