Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. 0009687534-01

Generated on 14 Aug 2024 using BERS Pro v5.2.2 (3.23)

Property

Address	Unit 2, 286 Sydney Road, Balgowlah , NSW , 2093
Lot/DP	Lot 14 DP 225411
NCC class*	1a
Floor/all Floors	G of 3 floors
Type	New Home

Plans

Main plan	DA Issue 24.07.2024
Prepared by	Blue Sky Building Designs

Construction and environment

Assessed floor area [m2]*	
Conditioned*	136.0
Unconditioned*	16.6
Total	175.6
Garage	22.9

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Marcello Belcastro
Business name	Evergreen Energy Consultants
Email	marcello@evergreenec.com.au
Phone	1300 584 010
Accreditation No.	DMN/18/1887
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declared, refer to "Additional Notes" on page 2

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	15.9	13.1
Load limits	N/A	N/A

Features determining load limits

Floor Type (lowest conditioned area)	SF
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=stRLgQDJi . 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

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

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

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

* Refer to glossary.

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

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

The thermal performance services we provide are not classified as ‘building work’,

and do not involve us preparing or providing ‘regulated designs’, under the Design and Building

Practitioners Act 2020 (NSW) (Act). Requests for any form of compliance declaration required

under the Act should be directed to the appropriate building or design practitioner. Whilst our

services provide registered building certifiers with the information they may require in order to

provide compliance certificates (particularly in respect of whether regulatory thermal

performance requirements will be met), registered building certifiers are solely responsible for

issuing such compliance certificates.

Room *schedule*

Room	Zone Type	Area [m^2]
Master Bed	Bedroom	20.91
Ensuite	Unconditioned	5.93
Laundry	Unconditioned	5.24
Lower Hall	Daytime	15.37
Garage	Garage	22.89
WC	Daytime	1.92
Kitchen/Living	Kitchen/Living	65.99
Bedroom 1	Bedroom	15.75
Bedroom 2	Bedroom	11.24
Upper Hall	Daytime	10.37
Bath	Unconditioned	5.46
Void	Unconditioned	2.76

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					

* Refer to glossary.

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
GJA-107-307	Aluminium Sliding Door DG 6Clr/12Ar/6LumaTherm	2.9	0.43	0.41	0.46
GJA-008-008	Aluminium Sliding Window DG 4EA/12/4Clr	3.3	0.54	0.51	0.57
GJA-083-006	Aluminium Hinged Door DG 4Clr/12/4EA	3.6	0.53	0.50	0.55
GJA-001-048	Aluminium Awning Window DG 4EA/12/4Clr	3.4	0.48	0.46	0.50
GJA-031-058	Aluminium Fixed Window DG 4Clr/12/4EA	3.2	0.60	0.57	0.63

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Master Bed	GJA-107-307-002	AD03	2100	3600	Sliding	60	N	No
Ensuite	GJA-008-008-001	AW02	600	1500	Sliding	45	E	No
Laundry	GJA-083-006-001	AD01	2100	760	Casement	90	E	No
Lower Hall	GJA-083-006-001	AD04	2100	820	Casement	90	N	No
Garage	GJA-001-048-001	AW12	1200	1200	Awning	10	E	No
Kitchen/Living	GJA-031-058-001	ADW11	2100	450	Fixed	00	S	No
Kitchen/Living	GJA-031-058-001	ADW11	600	2100	Fixed	00	S	No
Kitchen/Living	GJA-031-058-001	ADW11	2100	450	Fixed	00	S	No
Kitchen/Living	GJA-107-307-002	AD15	2100	4200	Sliding	60	N	No
Kitchen/Living	GJA-001-048-001	AW13	1200	1200	Awning	10	E	No
Kitchen/Living	GJA-001-048-001	AW14	1200	1200	Awning	10	E	No
Bedroom 1	GJA-107-307-002	AD24	2100	2700	Sliding	60	N	No
Bedroom 2	GJA-001-048-001	AW22	1500	2100	Awning	10	S	No
Upper Hall	GJA-031-058-001	AW25	1200	600	Fixed	00	N	No
Bath	GJA-008-008-001	AW23	600	1500	Sliding	45	E	No
Void	GJA-031-058-001	AW21	1200	1500	Fixed	00	S	No

* Refer to glossary.

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
VEL-011-01 W	VEL-011-01 W VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Upper Hall	VEL-011-01 W	S5	90	1500	600	N	No	No
Upper Hall	VEL-011-01 W	S6	90	1500	600	N	No	No

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m^2]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2100	3000	90	S
Kitchen/Living	2100	920	90	S

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Fibro Timber Stud Frame Panel Direct Fix	0.30		Bulk Insulation R2.5	No
EW-2	Tilt Up Concrete, Lined Timber Stud Frame	0.30		Bulk Insulation R2.5	No
EW-3	Fibro Timber Stud Frame Panel Direct Fix	0.30		No insulation	No
EW-4	Metal Clad Timber Stud Frame Direct Fix	0.30		Bulk Insulation 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]
Master Bed	EW-1	2700	4500	E	100	No
Master Bed	EW-1	2700	1200	S	11800	No
Master Bed	EW-1	2700	4695	N	2000	Yes
Ensuite	EW-1	2700	1890	E	1300	Yes
Laundry	EW-1	2700	1595	E	1300	Yes
Laundry	EW-1	2700	3595	S	8300	No
Lower Hall	EW-2	2700	4900	E	4900	No
Lower Hall	EW-2	2700	1100	S	1900	No
Lower Hall	EW-1	2700	1195	N	2000	Yes
Garage	EW-3	2450	7095	E	600	No
Garage	EW-3	2450	3700	S	600	No
Garage	EW-3	2450	1495	W	2300	No
Kitchen/Living	EW-1	2800	2200	S	2100	Yes
Kitchen/Living	EW-1	3000	5900	N	2000	Yes
Kitchen/Living	EW-1	2450	9095	E	600	No
Bedroom 1	EW-1	2450	3895	E	600	No
Bedroom 1	EW-4	600	595	N	0	No
Bedroom 1	EW-1	1850	595	N	600	No
Bedroom 1	EW-1	2450	3500	N	600	Yes
Bedroom 2	EW-1	2450	3795	E	600	No
Bedroom 2	EW-1	2450	3000	S	600	No
Bedroom 2	EW-1	2450	1500	W	600	No

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Upper Hall	EW-4	600	1095	N	0	Yes
Upper Hall	EW-1	1850	1095	N	600	No
Bath	EW-1	2450	1890	E	600	Yes
Void	EW-4	600	2195	S	0	Yes
Void	EW-1	1850	2195	S	600	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	82.90	No insulation
IW-002	Shaft liner party wall with plaster	62.79	Bulk Insulation both sides of shaft liner R2.5
IW-003	Timber Stud Frame, Direct Fix Plasterboard	23.77	Bulk Insulation, No Air Gap R2.5

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Master Bed	Concrete Slab on Ground 100mm	20.91	None	No Insulation	Cork Tiles or Parquetry 8mm
Ensuite	Concrete Slab on Ground 100mm	5.93	None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	5.24	None	No Insulation	Ceramic Tiles 8mm
Lower Hall	Concrete Slab on Ground 100mm	15.37	None	No Insulation	Cork Tiles or Parquetry 8mm
Garage	Concrete Slab on Ground 100mm	22.89	None	No Insulation	Bare
WC	Concrete Slab on Ground 100mm	1.92	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living / Master Bed	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 100mm	17.86		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / Ensuite	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 100mm	2.91		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / Laundry	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 100mm	2.10		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / Lower Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 100mm	12.36		No Insulation	Cork Tiles or Parquetry 8mm

* Refer to glossary.

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	13.49	None	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living	Suspended 35mm Fibre-Reinforced Concrete Floor Timber Frame 42mm	4.10	None	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
Bedroom 1 / Garage	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	1.76		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1 / WC	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	1.96		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1 / Kitchen/Living	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	11.55		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2 / Garage	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	10.71		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2 / Kitchen/Living	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	0.36		No Insulation	Carpet+Rubber Underlay 18mm
Upper Hall / Kitchen/Living	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	7.62		No Insulation	Cork Tiles or Parquetry 8mm
Bath / Garage	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	5.46		No Insulation	Ceramic Tiles 8mm
Void / Kitchen/Living	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Master Bed	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Ensuite	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Laundry	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Lower Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Garage	Plasterboard on Timber	No insulation	
Garage	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
WC	Plasterboard on Timber	Bulk Insulation R5	
WC	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R5	
Kitchen/Living	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	No Insulation	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R5	
Upper Hall	Plasterboard on Timber	Bulk Insulation R5	
Bath	Plasterboard on Timber	Bulk Insulation R5	
Void	Plasterboard on Timber	Bulk Insulation R5	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Master Bed	4	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	350	Sealed
Laundry	1	Exhaust Fans	350	Sealed
Lower Hall	3	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	350	Sealed
Kitchen/Living	10	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	350	Sealed
Bedroom 1	2	Downlights - LED	150	Sealed
Bedroom 2	2	Downlights - LED	150	Sealed
Upper Hall	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	350	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1800

* Refer to glossary.

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	0.43	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
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	

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)