

Nationwide House Energy Rating Scheme[®]

Multiple Class 1 dwellings Summary

NatHERS[®] Certificate No. 0011632860

Generated on 18 Dec 2024 using BERS Pro v5.2.3 (3.23)

Property

Address 139-141 Riverview Road,
AVALON BEACH , NSW , 2107

Lot/DP Lot 1 and 2 DP 833902

NatHERS Climate Zone 56 Mascot (Sydney Airport)



Accredited assessor

Name Joseph Lorriman

Business name Evergreen Energy Consultants Pty Ltd

Email enquiries@evergreenec.com.au

Phone 1300 584 010

Accreditation No. DMN/16/1742

Assessor Accrediting Organisation
Design Matters National



Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=GLtIrDKMC. 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
0011632841		14.5 (N/A)	11.6 (N/A)	26.1	7.4	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.

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AVALON BEACH , NSW , 2107

Lot/DP Lot 1 and 2 DP 833902

NCC class* 1a

Floor/all Floors G of 4 floors

Type New Home

Plans

Main plan 2023_152

Prepared by CM Studio

Construction and environment

Assessed floor area [m2]*

Conditioned*	556.5
Unconditioned*	74.1
Total	630.6
Garage	0.0

Exposure type Open

NatHERS climate zone 56 Mascot (Sydney Airport)



Accredited assessor

Name Joseph Lorriman

Business name Evergreen Energy Consultants Pty Ltd

Email enquiries@evergreenec.com.au

Phone 1300 584 010

Accreditation No. DMN/16/1742

Assessor Accrediting Organisation Design Matters National

Declaration of interest Declaration completed: no conflicts

NCC Requirements

NCC provisions Volume Two

Strate/Territory variation Yes

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Thermal performance Star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME[®]

26.1 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

For more information on your dwelling's rating see:
www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	14.5	11.6
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=BfEntsGHB. When using either link, ensure you are visiting hstar.com.au



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



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		Occupancy/Other
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Refer to glossary.



Certificate check

Continued

	Approval Stage		Construction Stage		Occupancy/Other
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	

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

Multiple glaziers have been used as glazing is timber framed and not all glazing types were available with the same

manufacturer



Room schedule

Room	Zone Type	Area [m ²]
Lower Hallway	Daytime	42.95
Gym/Wellness	Bedroom	44.11
Pool Storage	Unconditioned	7.96
Services Equip	Unconditioned	31.55
Sauna	Unconditioned	4.53
Changing	Unconditioned	7.27
Shower	Unconditioned	2.73
WC	Unconditioned	2.11
Laundry	Unconditioned	6.17
Drying Room	Unconditioned	6.08
Kitchen/Living	Kitchen/Living	178.89
Ground Hallway	Living	43.08
PDR	Daytime	5.41
Pantry	Daytime	8.07
Drying	Nighttime	5.98
1st Floor Hall	Nighttime	50.19
Master Suite	Bedroom	32.28
Ensuite	Nighttime	14.78
WIR	Nighttime	11.9
Bedroom 2	Bedroom	22.09
Ensuite 2	Nighttime	4.15
Ensuite 3	Nighttime	4.79
Bedroom 3	Bedroom	22.1
Bedroom 1	Bedroom	21.28
Ensuite 1	Nighttime	4.59
Guest Suite	Bedroom	20
Guest WIR	Nighttime	2.8
Guest Ensuite	Nighttime	5.27
2nd Floor Hall	Nighttime	41.09
Study	Bedroom	32.62
WC	Unconditioned	4.38



Room	Zone Type	Area [m ²]
Mud	Unconditioned	5.72

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
TND-212-008	Timber Hinged Door DG 4Clr/12Ar/4ET	1.8	0.43	0.41	0.45
WDR-012-008	Timber Sliding Door DG AGG PLUS Clr 4/12/4	1.6	0.42	0.40	0.44
WDR-001-008	Timber Fixed Window DG AGG PLUS Clr 4/12/4	1.5	0.54	0.51	0.56
EBS-003-004	Thermally Broken Aluminium Louvre Window DG 6ET/20Ar/6Clr	2.7	0.38	0.36	0.40

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Lower Hallway	TND-212-008-001	W2	3000	1500	Casement	90	W	No
Gym/Wellness	WDR-012-008-001	W1	3000	3500	Sliding	45	W	No
Kitchen/Living	WDR-012-008-001	W40	3800	2000	Sliding	90	N	No
Kitchen/Living	WDR-001-008-002	W42	3800	5600	Fixed	00	S	No
Kitchen/Living	WDR-012-008-001	W41	3800	8230	Sliding	60	E	No
Kitchen/Living	WDR-001-008-002	W66	3800	4000	Fixed	00	N	No
Kitchen/Living	WDR-012-008-001	W38	3800	6600	Sliding	60	W	No
Kitchen/Living	WDR-012-008-001	W39	3800	5200	Sliding	45	N	No
Kitchen/Living	TND-212-008-001	W57	3800	1900	Casement	90	W	No
Kitchen/Living	TND-212-008-001	W58	3800	1900	Casement	90	W	No
Kitchen/Living	TND-212-008-001	W59	3800	1900	Casement	90	W	No
Kitchen/Living	TND-212-008-001	W60	3800	1900	Casement	90	W	No
Kitchen/Living	TND-212-008-001	W62	3800	1900	Casement	90	W	No

* Refer to glossary.



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	TND-212-008-001	W61	3800	1900	Casement	90	W	No
Ground Hallway	WDR-001-008-002	W65	3800	893	Fixed	00	NW	No
Ground Hallway	WDR-001-008-002	W64	3800	1062	Fixed	00	NW	No
Ground Hallway	WDR-012-008-001	W43	3800	6570	Sliding	60	W	No
Ground Hallway	WDR-001-008-002	W63	3800	455	Fixed	00	W	No
1st Floor Hall	EBS-003-004-001	W67	3000	2000	Louvre	90	S	No
1st Floor Hall	WDR-012-008-001	W46	3000	8460	Sliding	60	W	No
Master Suite	WDR-012-008-001	W49	3000	1950	Sliding	90	N	No
Master Suite	WDR-012-008-001	W47	3000	2000	Sliding	90	S	No
Master Suite	WDR-012-008-001	W48	3000	6000	Sliding	60	W	No
Ensuite	EBS-003-004-001	W55	3000	2500	Louvre	90	N	No
WIR	EBS-003-004-001	W56	1000	1000	Louvre	90	N	No
Bedroom 2	WDR-012-008-001	W29	3000	3000	Sliding	45	N	No
Ensuite 3	EBS-003-004-001	W31	3000	900	Louvre	90	N	No
Bedroom 3	WDR-012-008-001	W23	3000	3000	Sliding	45	N	No
Bedroom 1	WDR-012-008-001	W45	3000	3000	Sliding	45	N	No
Bedroom 1	WDR-012-008-001	W44	3000	4030	Sliding	45	W	No
Ensuite 1	EBS-003-004-001	W68	3000	1200	Louvre	90	W	No
Guest Suite	WDR-012-008-001	W25	3000	5280	Sliding	60	W	No
Guest Suite	WDR-012-008-001	W54	3000	2000	Sliding	90	N	No
Guest Suite	EBS-003-004-001	W53	3000	2000	Louvre	90	S	No
2nd Floor Hall	WDR-012-008-001	W52	3000	8460	Sliding	60	W	No
Study	WDR-012-008-001	W51	3000	4200	Sliding	60	N	No
Study	WDR-012-008-001	W50	3000	5380	Sliding	60	W	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
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
Guest Ensuite	VEL-011-01 W	S1	0	900	900	E	No	No
2nd Floor Hall	VEL-011-01 W	S2	0	2400	1000	E	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
2nd Floor Hall	3000	2100	90	E
2nd Floor Hall	3000	1200	90	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Concrete Block, Lined Steel Stud Frame	0.30		Bulk Insulation, Air Gap R2	No
EW-2	Cavity Brick	0.30		Foil Anti-glare one side and Reflective other of the Bulk Insulation R2	Yes



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lower Hallway	EW-1	3000	1800	E	100	No
Lower Hallway	EW-1	3000	17500	S	4700	No
Lower Hallway	EW-1	3000	245	E	15300	No
Lower Hallway	EW-2	3000	1690	W	100	No
Lower Hallway	EW-1	3000	2300	N	100	No
Gym/Wellness	EW-2	3000	3545	W	100	No
Gym/Wellness	EW-2	3000	3270	W	112	No
Gym/Wellness	EW-1	3000	5800	N	100	No
Gym/Wellness	EW-1	3000	3000	E	100	No
Pool Storage	EW-1	3000	2290	N	100	No
Services Equip	EW-1	3000	8990	N	11900	No
Sauna	EW-2	3000	1745	S	100	No
Sauna	EW-2	3000	2645	W	100	No
Changing	EW-2	3000	2890	S	100	No
Shower	EW-1	3000	1245	E	15300	No
Shower	EW-1	3000	2245	S	2000	No
WC	EW-1	3000	990	E	15300	No
Laundry	EW-1	3000	1790	N	6400	No
Drying Room	EW-1	3000	3545	E	100	No
Drying Room	EW-1	3000	1745	N	6400	No
Kitchen/Living	EW-2	3800	2200	N	100	No
Kitchen/Living	EW-1	3800	5400	N	100	No
Kitchen/Living	EW-1	3800	5500	E	3200	No
Kitchen/Living	EW-1	3800	2045	N	5400	No
Kitchen/Living	EW-2	3800	5545	S	15000	No
Kitchen/Living	EW-2	3800	8300	E	10175	No
Kitchen/Living	EW-2	3800	4045	N	15300	No
Kitchen/Living	EW-2	3800	13145	S	100	No
Kitchen/Living	EW-2	3800	6600	W	1200	Yes



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-2	3800	5700	N	1200	No
Kitchen/Living	EW-2	3800	15200	W	1200	Yes
Ground Hallway	EW-1	3800	539	N	112	No
Ground Hallway	EW-1	3800	447	NE	135	No
Ground Hallway	EW-1	3800	1600	E	100	No
Ground Hallway	EW-1	3800	860	NE	90	No
Ground Hallway	EW-1	3800	1432	NE	135	No
Ground Hallway	EW-1	3800	1200	E	100	No
Ground Hallway	EW-1	3800	1170	E	103	No
Ground Hallway	EW-1	3800	990	SE	141	No
Ground Hallway	EW-1	3800	707	S	4798	No
Ground Hallway	EW-1	3800	1300	S	4700	No
Ground Hallway	EW-1	3800	2800	E	2400	No
Ground Hallway	EW-1	3800	2300	N	9975	No
Ground Hallway	EW-1	3800	1800	E	100	No
Ground Hallway	EW-1	3800	2300	S	100	No
Ground Hallway	EW-1	3800	245	E	100	No
Ground Hallway	EW-2	3800	839	NW	16882	No
Ground Hallway	EW-2	3800	1063	NW	14014	No
Ground Hallway	EW-2	3800	7100	W	10900	No
Ground Hallway	EW-1	3800	2545	N	500	No
PDR	EW-1	3800	1890	E	100	No
Pantry	EW-1	3800	2245	E	100	No
Pantry	EW-2	3800	3645	S	100	No
Drying	EW-1	3000	2745	E	100	No
Drying	EW-1	3000	1100	N	5025	No
1st Floor Hall	EW-1	3000	2045	E	100	No
1st Floor Hall	EW-1	3000	707	NW	11243	No
1st Floor Hall	EW-1	3000	728	NW	206	No
1st Floor Hall	EW-1	3000	608	N	103	No
1st Floor Hall	EW-1	3000	860	NE	90	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
1st Floor Hall	EW-1	3000	1432	NE	90	No
1st Floor Hall	EW-1	3000	1200	E	100	No
1st Floor Hall	EW-1	3000	1170	E	112	No
1st Floor Hall	EW-1	3000	990	SE	71	No
1st Floor Hall	EW-2	3000	751	S	6475	No
1st Floor Hall	EW-1	3000	1745	E	100	No
1st Floor Hall	EW-1	3000	2300	S	4700	No
1st Floor Hall	EW-1	3000	4600	E	2400	No
1st Floor Hall	EW-2	3000	11645	S	100	No
1st Floor Hall	EW-2	3000	8945	W	500	No
Master Suite	EW-2	3000	4095	N	100	No
Master Suite	EW-1	3000	500	N	100	No
Master Suite	EW-1	3000	1045	E	100	No
Master Suite	EW-2	3000	9000	S	600	No
Master Suite	EW-2	3000	6000	W	1400	No
Ensuite	EW-2	3000	3390	N	100	No
WIR	EW-2	3000	1795	N	100	No
WIR	EW-1	3000	700	N	100	No
WIR	EW-1	3000	4845	E	100	No
Bedroom 2	EW-2	3000	4090	N	600	No
Ensuite 3	EW-2	3000	1740	N	600	No
Bedroom 3	EW-2	3000	4140	N	600	No
Bedroom 1	EW-2	3000	4045	N	600	No
Bedroom 1	EW-2	3000	1090	S	100	No
Bedroom 1	EW-2	3000	4845	W	1400	No
Ensuite 1	EW-2	3000	2845	S	100	No
Ensuite 1	EW-2	3000	1645	W	1400	No
Guest Suite	EW-2	3000	6000	W	1400	No
Guest Suite	EW-2	3000	3045	N	100	No
Guest Suite	EW-2	3000	990	E	700	No
Guest Suite	EW-2	3000	3900	S	600	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Guest WIR	EW-2	3000	1745	N	100	No
Guest WIR	EW-2	3000	1645	E	700	No
Guest Ensuite	EW-2	3000	3145	E	700	No
2nd Floor Hall	EW-2	3000	1345	E	700	No
2nd Floor Hall	EW-2	3000	1700	N	700	No
2nd Floor Hall	EW-2	3000	608	N	633	No
2nd Floor Hall	EW-2	3000	860	NE	576	No
2nd Floor Hall	EW-2	3000	1432	NE	637	No
2nd Floor Hall	EW-2	3000	1200	E	650	No
2nd Floor Hall	EW-2	3000	1170	E	957	No
2nd Floor Hall	EW-2	3000	990	SE	2051	No
2nd Floor Hall	EW-2	3000	707	S	9443	No
2nd Floor Hall	EW-2	3000	700	S	9300	No
2nd Floor Hall	EW-2	3000	2800	E	3200	No
2nd Floor Hall	EW-2	3000	1700	N	8425	No
2nd Floor Hall	EW-2	3000	3445	E	16900	No
2nd Floor Hall	EW-2	3000	9745	W	600	No
Study	EW-2	3000	5645	N	600	No
Study	EW-2	3000	5645	S	100	No
Study	EW-2	3000	5800	W	1400	No
WC	EW-2	3000	1590	S	100	No
Mud	EW-2	3000	2845	E	16900	No
Mud	EW-2	3000	2045	S	100	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Single Skin Brick	414.36	No insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	30.00	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lower Hallway	Concrete Slab on Ground 100mm	42.95	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Gym/Wellness	Concrete Slab on Ground 100mm	44.11	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Pool Storage	Concrete Slab on Ground 100mm	7.96	None	Bulk Insulation in Contact with Floor R2	Bare
Services Equip	Concrete Slab on Ground 100mm	31.55	None	Bulk Insulation in Contact with Floor R2	Bare
Sauna	Concrete Slab on Ground 100mm	4.53	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Changing	Concrete Slab on Ground 100mm	7.27	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Shower	Concrete Slab on Ground 100mm	2.73	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 100mm	2.11	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	6.17	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Drying Room	Concrete Slab on Ground 100mm	6.08	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living / Lower Hallway	Concrete Steel Framed Above Plasterboard 100mm	24.88		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / Services Equip	Concrete Steel Framed Above Plasterboard 100mm	15.11		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / Shower	Concrete Steel Framed Above Plasterboard 100mm	1.56		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living / WC	Concrete Steel Framed Above Plasterboard 100mm	1.22		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living	Concrete Slab on Ground 100mm	132.55	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Ground Hallway / Lower Hallway	Concrete Steel Framed Above Plasterboard 100mm	9.04		No Insulation	Cork Tiles or Parquetry 8mm
Ground Hallway / Laundry	Concrete Steel Framed Above Plasterboard 100mm	0.11		No Insulation	Cork Tiles or Parquetry 8mm
Ground Hallway / Drying Room	Concrete Steel Framed Above Plasterboard 100mm	5.26		No Insulation	Cork Tiles or Parquetry 8mm
Ground Hallway	Concrete Slab on Ground 100mm	27.18	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
PDR	Concrete Slab on Ground 100mm	5.41	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Pantry	Concrete Slab on Ground 100mm	8.07	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Drying	Concrete Slab on Ground 100mm	5.98	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
1st Floor Hall / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
1st Floor Hall / Ground Hallway	Concrete Steel Framed Above Plasterboard 100mm	2.29		No Insulation	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
1st Floor Hall / PDR	Concrete Steel Framed Above Plasterboard 100mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
1st Floor Hall / Pantry	Concrete Steel Framed Above Plasterboard 100mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
Master Suite / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	29.54		No Insulation	Cork Tiles or Parquetry 8mm
Master Suite / Ground Hallway	Concrete Steel Framed Above Plasterboard 100mm	0.33		No Insulation	Cork Tiles or Parquetry 8mm
Master Suite	Concrete Slab on Ground 100mm	0.96	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Ensuite / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	12.08		No Insulation	Ceramic Tiles 8mm
Ensuite	Concrete Slab on Ground 100mm	2.18	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
WIR	Concrete Slab on Ground 100mm	11.90	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bedroom 2 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	22.09		No Insulation	Cork Tiles or Parquetry 8mm
Ensuite 2 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	4.15		No Insulation	Ceramic Tiles 8mm
Ensuite 3 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	4.79		No Insulation	Ceramic Tiles 8mm
Bedroom 3 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	13.01		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3 / Ground Hallway	Concrete Steel Framed Above Plasterboard 100mm	2.45		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3 / PDR	Concrete Steel Framed Above Plasterboard 100mm	2.00		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3 / Pantry	Concrete Steel Framed Above Plasterboard 100mm	1.64		No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 1 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	21.28		No Insulation	Cork Tiles or Parquetry 8mm
Ensuite 1 / Kitchen/Living	Concrete Steel Framed Above Plasterboard 100mm	4.59		No Insulation	Ceramic Tiles 8mm
Guest Suite / Master Suite	Concrete Steel Framed Above Plasterboard 100mm	5.77		No Insulation	Cork Tiles or Parquetry 8mm
Guest Suite / Ensuite	Concrete Steel Framed Above Plasterboard 100mm	10.22		No Insulation	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Guest Suite / WIR	Concrete Steel Framed Above Plasterboard 100mm	2.84		No Insulation	Cork Tiles or Parquetry 8mm
Guest WIR / WIR	Concrete Steel Framed Above Plasterboard 100mm	2.80		No Insulation	Cork Tiles or Parquetry 8mm
Guest Ensuite / WIR	Concrete Steel Framed Above Plasterboard 100mm	5.26		No Insulation	Ceramic Tiles 8mm
2nd Floor Hall / Drying	Concrete Steel Framed Above Plasterboard 100mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
2nd Floor Hall / 1st Floor Hall	Concrete Steel Framed Above Plasterboard 100mm	3.57		No Insulation	Cork Tiles or Parquetry 8mm
2nd Floor Hall	Concrete Slab on Ground 100mm	3.59	None	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Study / 1st Floor Hall	Concrete Steel Framed Above Plasterboard 100mm	5.84		No Insulation	Cork Tiles or Parquetry 8mm
Study / Ensuite 2	Concrete Steel Framed Above Plasterboard 100mm	3.47		No Insulation	Cork Tiles or Parquetry 8mm
Study / Ensuite 3	Concrete Steel Framed Above Plasterboard 100mm	2.72		No Insulation	Cork Tiles or Parquetry 8mm
Study / Bedroom 3	Concrete Steel Framed Above Plasterboard 100mm	19.30		No Insulation	Cork Tiles or Parquetry 8mm
WC / 1st Floor Hall	Concrete Steel Framed Above Plasterboard 100mm	3.79		No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 100mm	0.03	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Mud	Concrete Slab on Ground 100mm	5.72	None	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Lower Hallway	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Lower Hallway	Concrete Steel Framed Above Plasterboard	No Insulation	
Gym/Wellness	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Pool Storage	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Services Equip	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	

* Refer to glossary.



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Services Equip	Concrete Steel Framed Above Plasterboard	No Insulation	
Sauna	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Changing	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Shower	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Shower	Concrete Steel Framed Above Plasterboard	No Insulation	
WC	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
WC	Concrete Steel Framed Above Plasterboard	No Insulation	
Laundry	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Laundry	Concrete Steel Framed Above Plasterboard	No Insulation	
Drying Room	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Drying Room	Concrete Steel Framed Above Plasterboard	No Insulation	
Kitchen/Living	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Kitchen/Living	Concrete Steel Framed Above Plasterboard	No Insulation	
Ground Hallway	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ground Hallway	Concrete Steel Framed Above Plasterboard	No Insulation	
PDR	Concrete Steel Framed Above Plasterboard	No Insulation	
Pantry	Concrete Steel Framed Above Plasterboard	No Insulation	
Drying	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Drying	Concrete Steel Framed Above Plasterboard	No Insulation	
1st Floor Hall	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
1st Floor Hall	Concrete Steel Framed Above Plasterboard	No Insulation	
Master Suite	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Master Suite	Concrete Steel Framed Above Plasterboard	No Insulation	
Ensuite	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ensuite	Concrete Steel Framed Above Plasterboard	No Insulation	
WIR	Concrete Steel Framed Above Plasterboard	No Insulation	
Bedroom 2	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ensuite 2	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ensuite 2	Concrete Steel Framed Above Plasterboard	No Insulation	
Ensuite 3	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ensuite 3	Concrete Steel Framed Above Plasterboard	No Insulation	
Bedroom 3	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 3	Concrete Steel Framed Above Plasterboard	No Insulation	
Bedroom 1	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Ensuite 1	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Guest Suite	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Guest WIR	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Guest Ensuite	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
2nd Floor Hall	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Study	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
WC	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	
Mud	Concrete, Plasterboard with Steel Frame	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Sauna	1	Exhaust Fans	300	Sealed
Changing	1	Exhaust Fans	300	Sealed
Shower	1	Exhaust Fans	300	Sealed
WC	1	Exhaust Fans	300	Sealed
Laundry	1	Exhaust Fans	300	Sealed
Drying Room	1	Exhaust Fans	300	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
PDR	1	Exhaust Fans	300	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Ensuite 2	1	Exhaust Fans	300	Sealed
Ensuite 3	1	Exhaust Fans	300	Sealed
Ensuite 1	1	Exhaust Fans	300	Sealed
Guest Ensuite	1	Exhaust Fans	300	Sealed
WC	1	Exhaust Fans	300	Sealed
Mud	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Gym/Wellness	1	1800



Location	Quantity	Diameter [mm]
Kitchen/Living	2	2400
Master Suite	1	1800
Bedroom 2	1	1400
Bedroom 3	1	1400
Bedroom 1	1	1400
Guest Suite	1	1400
Study	1	1800

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
External Wall		600	0.75	R0.2
Ceiling		900	0.75	R0.2
Ceiling		900	0.75	No

Appliance schedule

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

Note: A flat assumption of 5W/m² 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 home's energy value*.

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

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

Accredited assessors

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

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

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

Disclaimer

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

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – 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)

* Refer to glossary.