Nationwide House Energy Rating Scheme®
Multiple Class 1 dwellings Summary
NatHERS® Certificate No. 0005900260

Generated on 12 Feb 2024 using BERS Pro v5.1.7 (3.22)

Property

Address	28 Stuart Street, COLLAROY , NSW , 2097
Lot/DP	Lot 1 DP 1199598
NatHERS Climate Zone	56 Mascot (Sydney Airport)

Accredited assessor

Name	Brad Hoad
Business name	Thermal Performance
Email	brad@thermalperformance.com.au
Phone	0458-221-211
Accreditation No.	20731

Assessor Accrediting Organisation

ABSA

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=NUVHHTFFM .
When using either link, ensure you are visiting www.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
0009232703-01	Main	20.8 (N/A)	8.9 (N/A)	29.7	7	0
0009232695	Secondary	0.4 (N/A)	13.3 (N/A)	13.7	8.8	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® NatHERS® Certificate No. 0009232703-01

Generated on 12 Feb 2024 using BERS Pro v5.1.7 (3.22)

Property

Address	Unit Main, 28 Stuart Street, COLLAROY , NSW , 2097
Lot/DP	Lot 1 DP 1199598
NCC class*	1a
Floor/all Floors	G of 5 floors
Type	New Home

Plans

Main plan	Ivy
Prepared by	Vigor Master

Construction and environment

Assessed floor area [m2]*	
Conditioned*	363.6
Unconditioned*	11.3
Total	497.4
Garage	122.5

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Brad Hoad
Business name	Thermal Performance
Email	brad@thermalperformance.com.au
Phone	0458-221-211
Accreditation No.	20731

Assessor Accrediting Organisation
ABSA

Declaration of interest Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
Strate/Territory variation	Yes

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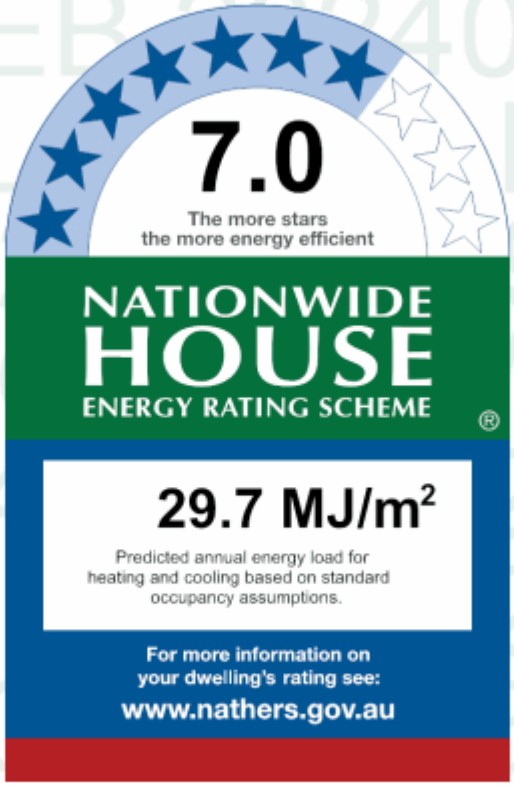
Thermal performance Star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	20.8	8.9
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 www.hstar.com.au/QR/Generate?p=YrGCLxhgF . When using either link, ensure you are visiting www.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

* 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

* Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m^2]
Garage	Garage	122.45
Stairs/Lift LGF	Daytime	24.81
Bedroom 2	Bedroom	33.59
Ensuite B2	Nighttime	9.41
Bedroom 3	Bedroom	22.06
Toilet GF	Daytime	6.21
Stairs/Hall GF	Daytime	21.35
Ensuite B4	Nighttime	4.85
Bedroom 4	Bedroom	20.59
Toliet FF	Daytime	5.89
Laundry	Unconditioned	6
Bar/Sitting	Living	65.36
Study	Daytime	12.64
Stairs/Lift GP	Daytime	12.17
Bedroom 1	Bedroom	23.16
Ensuite B1	Nighttime	6.97
Media	Living	12.66
Toilet SF	Unconditioned	5.34
Stairs/Lift SF	Daytime	12.59
Kit/Liv/Din	Kitchen/Living	82.15

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
WID-006-01 A	Al Residential Sliding Window SG 3mm Clear	6.4	0.76	0.72	0.80

* Refer to glossary.

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
WID-010-01 A	Al Architectural Paragon Sliding Door SG 5Clr	6.3	0.62	0.59	0.65
WID-011-04 A	Al Architectural Paragon Stacker Door SG 638mm Comfort Plus	4.7	0.39	0.37	0.41

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 2	WID-011-04 A	D2	2400	3900	Sliding	45	N	No
Ensuite B2	WID-006-01 A	W2	600	1500	Sliding	45	E	No
Bedroom 3	WID-006-01 A	W3	600	2700	Sliding	45	E	No
Ensuite B4	WID-006-01 A	W7	600	1200	Sliding	45	E	No
Bedroom 4	WID-006-01 A	W6	1500	1800	Sliding	45	E	No
Bar/Sitting	WID-011-04 A	D3	2700	3900	Sliding	45	N	No
Bar/Sitting	WID-006-01 A	W5	600	2700	Fixed	00	E	No
Study	WID-006-01 A	W4	600	2700	Sliding	45	W	No
Bedroom 1	WID-011-04 A	D1	2400	3600	Sliding	45	N	No
Ensuite B1	WID-006-01 A	W1	600	2700	Sliding	45	W	No
Media	WID-006-01 A	W9	600	2700	Sliding	45	W	No
Toilet SF	WID-006-01 A	W10	600	1200	Sliding	45	W	No
Stairs/Lift SF	WID-006-01 A	W11	2100	1500	Fixed	00	N	No
Kit/Liv/Din	WID-010-01 A	D4	2400	2400	Sliding	45	N	No
Kit/Liv/Din	WID-006-01 A	W12	1200	1800	Sliding	45	E	No
Kit/Liv/Din	WID-006-01 A	W13	1200	1800	Sliding	45	E	No
Kit/Liv/Din	WID-010-01 A	D5	2400	2400	Sliding	45	S	No
Kit/Liv/Din	WID-006-01 A	W14	600	2700	Sliding	45	S	No
Kit/Liv/Din	WID-006-01 A	W8	600	2700	Sliding	45	W	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
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
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	2400	4500	90	N
Garage	2040	900	90	N
Stairs/Lift LGF	2400	900	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.5		No insulation	No
EW-2	Cavity Brick	0.5		Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	Yes

* Refer to glossary.

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	3000	11400	N	0	No
Garage	EW-1	3000	10600	E	0	No
Garage	EW-1	3000	7100	S	0	No
Garage	EW-1	3000	1045	W	0	No
Garage	EW-1	3000	800	S	0	No
Garage	EW-1	3000	10700	W	0	No
Stairs/Lift LGF	EW-2	2700	1200	N	2700	No
Stairs/Lift LGF	EW-2	2700	3500	S	0	No
Stairs/Lift LGF	EW-2	2700	3900	W	0	No
Stairs/Lift LGF	EW-2	2700	800	S	0	No
Stairs/Lift LGF	EW-2	2700	6200	W	0	No
Bedroom 2	EW-2	2700	5345	N	1500	No
Bedroom 2	EW-2	2700	5145	E	0	No
Ensuite B2	EW-2	2700	3990	E	0	No
Bedroom 3	EW-2	2700	4745	S	0	No
Bedroom 3	EW-2	2700	4845	E	0	No
Toilet GF	EW-2	2700	2655	W	0	No
Toilet GF	EW-2	2700	2555	S	0	No
Stairs/Hall GF	EW-2	2700	2000	S	0	No
Stairs/Hall GF	EW-2	2700	4145	W	0	No
Ensuite B4	EW-2	2700	3155	S	0	No
Ensuite B4	EW-2	2700	1655	E	0	No
Bedroom 4	EW-2	2700	5345	W	0	No
Bedroom 4	EW-2	2700	3690	E	0	No
Bedroom 4	EW-2	2700	1845	S	0	No
Laundry	EW-2	2700	1890	E	0	No
Bar/Sitting	EW-2	2700	4100	S	0	No
Bar/Sitting	EW-2	2700	3845	W	0	No
Bar/Sitting	EW-2	2700	4045	W	0	No

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bar/Sitting	EW-2	2700	7300	N	3800	No
Bar/Sitting	EW-2	2700	6700	E	0	No
Bar/Sitting	EW-2	2700	1000	N	0	No
Bar/Sitting	EW-2	2700	2645	E	0	No
Study	EW-2	2700	3345	W	0	No
Study	EW-2	2700	800	N	0	No
Stairs/Lift GP	EW-2	3000	4145	E	0	No
Stairs/Lift GP	EW-2	3000	3500	S	0	No
Stairs/Lift GP	EW-2	3000	2945	W	0	No
Bedroom 1	EW-2	2700	4345	W	0	No
Bedroom 1	EW-2	2700	4645	N	1500	No
Ensuite B1	EW-2	2700	800	S	0	No
Ensuite B1	EW-2	2700	2945	W	0	No
Media	EW-2	2550	4145	W	0	No
Media	EW-2	2550	500	N	0	No
Toilet SF	EW-2	2550	2290	W	0	No
Stairs/Lift SF	EW-2	2550	4045	W	0	No
Stairs/Lift SF	EW-2	2550	3200	N	0	No
Stairs/Lift SF	EW-2	2550	4045	E	4100	No
Kit/Liv/Din	EW-2	2550	4100	N	4100	No
Kit/Liv/Din	EW-2	2550	7700	E	0	No
Kit/Liv/Din	EW-2	2550	1000	N	0	No
Kit/Liv/Din	EW-2	2550	5000	E	0	No
Kit/Liv/Din	EW-2	2550	8800	S	0	No
Kit/Liv/Din	EW-2	2550	6045	W	0	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Single Skin Brick	242.51	No insulation
IW-002	Single Skin Brick	4.85	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1
IW-003	Cavity brick, plasterboard	22.14	Bulk Insulation in the centre R1

* Refer to glossary.

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 100mm	122.45	None	No Insulation	Bare
Stairs/Lift LGF / Garage	Concrete Timber Framed Above Plasterboard 100mm	8.99		No Insulation	Ceramic Tiles 8mm
Stairs/Lift LGF / Stairs/Lift GP	Concrete Timber Framed Above Plasterboard 100mm	9.18		No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	33.59	None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite B2	Concrete Slab, Unit Below 150mm	9.41	None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab, Unit Below 150mm	22.06	None	No Insulation	Carpet+Rubber Underlay 18mm
Toilet GF	Concrete Slab, Unit Below 150mm	6.21	None	No Insulation	Ceramic Tiles 8mm
Stairs/Hall GF / Stairs/Lift LGF	Concrete Timber Framed Above Plasterboard 150mm	9.62		No Insulation	Ceramic Tiles 8mm
Stairs/Hall GF	Concrete Slab, Unit Below 150mm	7.54	None	No Insulation	Ceramic Tiles 8mm
Ensuite B4	Concrete Slab on Ground 100mm	4.85	None	No Insulation	Ceramic Tiles 8mm
Bedroom 4	Concrete Slab on Ground 100mm	20.59	None	No Insulation	Carpet+Rubber Underlay 18mm
Toliet FF	Concrete Slab on Ground 100mm	5.89	None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	6.00	None	No Insulation	Ceramic Tiles 8mm
Bar/Sitting / Bedroom 2	Concrete Timber Framed Above Plasterboard 100mm	0.00		No Insulation	Ceramic Tiles 8mm
Bar/Sitting / Ensuite B2	Concrete Timber Framed Above Plasterboard 100mm	0.00		No Insulation	Ceramic Tiles 8mm
Bar/Sitting / Bedroom 3	Concrete Timber Framed Above Plasterboard 100mm	8.75		No Insulation	Ceramic Tiles 8mm
Bar/Sitting / Toilet GF	Concrete Timber Framed Above Plasterboard 100mm	0.00		No Insulation	Ceramic Tiles 8mm
Bar/Sitting / Stairs/Hall GF	Concrete Timber Framed Above Plasterboard 100mm	11.61		No Insulation	Ceramic Tiles 8mm
Bar/Sitting	Concrete Slab on Ground 100mm	27.23	None	No Insulation	Ceramic Tiles 8mm
Study / Toilet GF	Concrete Timber Framed Above Plasterboard 150mm	3.83		No Insulation	Ceramic Tiles 8mm
Study	Suspended Concrete Slab 150mm	9.80	Totally Open	No Insulation	Ceramic Tiles 8mm
Stairs/Lift GP	Concrete Slab on Ground 100mm	12.17	None	No Insulation	Ceramic Tiles 8mm

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1 / Stairs/Lift LGF	Concrete Timber Framed Above Plasterboard 150mm	5.81		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Concrete Slab, Unit Below 150mm	18.33	None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite B1 / Stairs/Lift LGF	Concrete Timber Framed Above Plasterboard 150mm	4.97		No Insulation	Ceramic Tiles 8mm
Ensuite B1	Concrete Slab, Unit Below 150mm	3.88	None	No Insulation	Ceramic Tiles 8mm
Media / Toliet FF	Concrete Timber Framed Above Plasterboard 100mm	4.13		No Insulation	Carpet+Rubber Underlay 18mm
Media / Bar/Sitting	Concrete Timber Framed Above Plasterboard 100mm	6.42		No Insulation	Carpet+Rubber Underlay 18mm
Media / Study	Concrete Timber Framed Above Plasterboard 100mm	4.08		No Insulation	Carpet+Rubber Underlay 18mm
Toilet SF / Study	Concrete Timber Framed Above Plasterboard 100mm	5.34		No Insulation	Ceramic Tiles 8mm
Stairs/Lift SF / Bar/Sitting	Concrete Timber Framed Above Plasterboard 100mm	9.35		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Ensuite B4	Concrete Timber Framed Above Plasterboard 100mm	5.82		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Bedroom 4	Concrete Timber Framed Above Plasterboard 100mm	20.32		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Toliet FF	Concrete Timber Framed Above Plasterboard 100mm	207.29		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Laundry	Concrete Timber Framed Above Plasterboard 100mm	5.49		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Bar/Sitting	Concrete Timber Framed Above Plasterboard 100mm	26.54		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din / Study	Concrete Timber Framed Above Plasterboard 100mm	5.26		No Insulation	Ceramic Tiles 8mm
Kit/Liv/Din	Concrete Slab on Ground 100mm	19.24	None	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	Concrete, Plasterboard with Timber Frame	No insulation	
Garage	Concrete Timber Framed Above Plasterboard	No Insulation	
Stairs/Lift LGF	Concrete Timber Framed Above Plasterboard	No Insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 2	Concrete Timber Framed Above Plasterboard	No Insulation	
Ensuite B2	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Ensuite B2	Concrete Timber Framed Above Plasterboard	No Insulation	
Bedroom 3	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Bedroom 3	Concrete Timber Framed Above Plasterboard	No Insulation	
Toilet GF	Concrete Timber Framed Above Plasterboard	No Insulation	
Stairs/Hall GF	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Stairs/Hall GF	Concrete Timber Framed Above Plasterboard	No Insulation	
Ensuite B4	Concrete Timber Framed Above Plasterboard	No Insulation	
Bedroom 4	Concrete Timber Framed Above Plasterboard	No Insulation	
Toliet FF	Concrete Timber Framed Above Plasterboard	No Insulation	
Laundry	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Laundry	Concrete Timber Framed Above Plasterboard	No Insulation	
Bar/Sitting	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Bar/Sitting	Concrete Timber Framed Above Plasterboard	No Insulation	
Study	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Study	Concrete Timber Framed Above Plasterboard	No Insulation	
Stairs/Lift GP	Plasterboard on Timber	Bulk Insulation R3.5	
Stairs/Lift GP	Concrete Timber Framed Above Plasterboard	No Insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Ensuite B1	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Media	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Toilet SF	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Stairs/Lift SF	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	
Kit/Liv/Din	Concrete, Plasterboard with Timber Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Stairs/Lift LGF	2	Downlights - LED	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
Ensuite B2	2	Downlights - LED	150	Sealed
Ensuite B2	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Toilet GF	2	Downlights - LED	150	Sealed
Toilet GF	1	Exhaust Fans	300	Sealed
Stairs/Hall GF	4	Downlights - LED	150	Sealed
Ensuite B4	2	Downlights - LED	150	Sealed
Ensuite B4	1	Exhaust Fans	300	Sealed
Bedroom 4	5	Downlights - LED	150	Sealed
Toliet FF	2	Downlights - LED	150	Sealed
Toliet FF	1	Exhaust Fans	300	Sealed
Laundry	2	Downlights - LED	150	Sealed
Laundry	1	Exhaust Fans	300	Sealed
Bar/Sitting	12	Downlights - LED	150	Sealed
Study	4	Downlights - LED	150	Sealed
Stairs/Lift GP	2	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
Ensuite B1	2	Downlights - LED	150	Sealed
Ensuite B1	1	Exhaust Fans	300	Sealed
Media	4	Downlights - LED	150	Sealed
Toilet SF	2	Downlights - LED	150	Sealed
Toilet SF	1	Exhaust Fans	300	Sealed
Stairs/Lift SF	3	Downlights - LED	150	Sealed
Kit/Liv/Din	18	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kit/Liv/Din	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
Waterproofing Membrane	No Insulation, Only an Air Gap	0.5	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							

* Refer to glossary.

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)

Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. 0009232695

Generated on 12 Feb 2024 using BERS Pro v5.1.7 (3.22)

Property

Address	Unit Secondary, 28 Stuart Street, COLLAROY , NSW , 2097
Lot/DP	Lot 1 DP 1199598
NCC class*	1a
Floor/all Floors	G of 1 floors
Type	New Home

Plans

Main plan	Ivy
Prepared by	Vigor Master

Construction and environment

Assessed floor area [m2]*	
Conditioned*	50.2
Unconditioned*	5.0
Total	55.2
Garage	0.0

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Brad Hoad
Business name	Thermal Performance
Email	brad@thermalperformance.com.au
Phone	0458-221-211
Accreditation No.	20731
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
Strate/Territory variation	Yes

National Construction Code (NCC) requirements

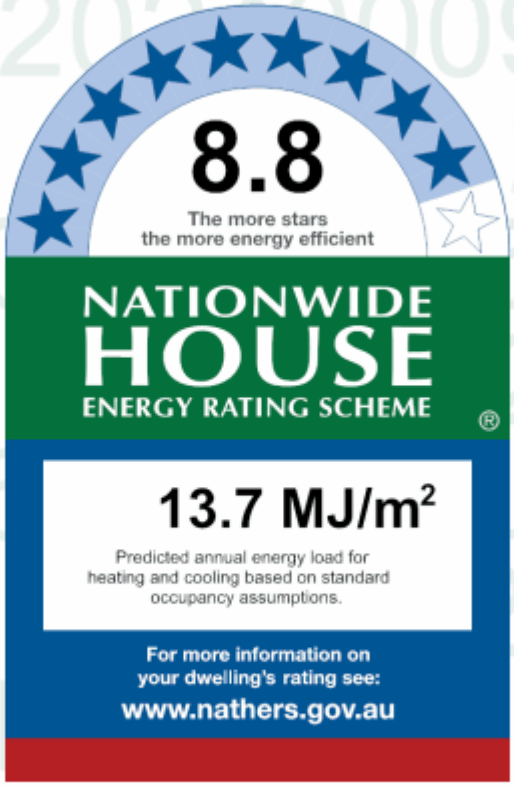
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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	0.4	13.3
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 www.hstar.com.au/QR/Generate?p=zGrNiqEGM . When using either link, ensure you are visiting www.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

* Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m^2]
Bedroom 2	Bedroom	12.94
Kitchen/Living	Kitchen/Living	26.57
Toilet	Unconditioned	5.02
Bedroom 1	Bedroom	10.72

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
WID-004-01 A	Al Residential Entry Frame / Door SG 4Clr	5.9	0.60	0.57	0.63
WID-006-01 A	Al Residential Sliding Window SG 3mm Clear	6.4	0.76	0.72	0.80
WID-010-01 A	Al Architectural Paragon Sliding Door SG 5Clr	6.3	0.62	0.59	0.65

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 2	WID-006-01 A	W2	600	2700	Sliding	45	E	No
Kitchen/Living	WID-004-01 A	D1	2400	900	Casement	90	N	No
Kitchen/Living	WID-010-01 A	W3	1000	1800	Sliding	45	N	No
Bedroom 1	WID-006-01 A	W1	600	2700	Sliding	45	E	No
Bedroom 1	WID-006-01 A	D2	2400	2400	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					

* Refer to glossary.

Default roof windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit

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
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
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.5		Foil Anti-glare one side and Reflective other of the Bulk Insulation R1	Yes

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 2	EW-1	2700	4155	E	1600	No

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 2	EW-1	2700	3455	S	0	No
Kitchen/Living	EW-1	2700	5145	N	2800	No
Toilet	EW-1	2700	1300	E	0	No
Toilet	EW-1	2700	2000	S	0	No
Bedroom 1	EW-1	2700	3455	E	1600	No
Bedroom 1	EW-1	2700	3455	N	2800	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Single Skin Brick	24.97	No insulation
IW-002	Cavity brick, plasterboard	27.81	Bulk Insulation in the centre R1

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 2	Suspended Concrete Slab 150mm	12.94	Basement Carpark	Foil Sided Bulk in Contact with Floor, Reflective Down R1	Carpet+Rubber Underlay 18mm
Kitchen/Living	Suspended Concrete Slab 150mm	26.57	Basement Carpark	Foil Sided Bulk in Contact with Floor, Reflective Down R1	Ceramic Tiles 8mm
Toilet	Suspended Concrete Slab 150mm	5.02	Basement Carpark	Foil Sided Bulk in Contact with Floor, Reflective Down R1	Ceramic Tiles 8mm
Bedroom 1	Suspended Concrete Slab 150mm	10.72	Basement Carpark	Foil Sided Bulk in Contact with Floor, Reflective Down R1	Carpet+Rubber Underlay 18mm

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Toilet	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Bedroom 2	4	Downlights - LED	150	Sealed
Kitchen/Living	10	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
Toilet	2	Downlights - LED	150	Sealed
Toilet	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

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.

* Refer to glossary.

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)