Nationwide House Energy Rating Scheme®
Class 2 Summary
NatHERS® Certificate No. TX2CP1AIDE

Generated on 16 May 2024 using FirstRate5 v5.5.4

Property

Address Lot 806 (1&2) 14 Davis Crescent, Caerleon, NSW, 2850

Lot/DP

NatHERS Climate Zone 65

Accredited assessor

Name SANTARITA KOLLOSCHE

Business name Stellar Thermal Assessments

Email admin@stellarthermal.com

Phone +61481099915

Accreditation No. HERA10183

Assessor Accrediting Organisation
HERA

Verification

To verify this certificate, scan the QR code or visit https://www.fr5.com.au/QRCodeLanding?PublicId=TX2CP1AIDE&GrpCert=1
When using either link, ensure you are visiting www.fr5.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.

Thermal performance Star rating

7.0
Average Rating

NATIONWIDE HOUSE ENERGY RATING SCHEME®

The rating above is the average of all dwellings in this summary.

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

NCC heating and cooling maximum loads MJ/m²/p.a.

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled block average	144.8	9.6
Maximum allowable limit	N/A	N/A

Whole of Home performance rating

No Whole of Home performance rating conducted for this summary certificate
or
not completed for all dwellings

The rating above is the lowest of all dwellings in this summary

Summary of all dwellings

Certificate number and link	Unit number	Heating load (load limit) [MJ/m²/p.a.]	Cooling load (load limit) [MJ/m²/p.a.]	Total load [MJ/m²/p.a.]	Star rating	Whole of Home Rating
JNTNSJHENU	1	144.0 (N/A)	10.6 (N/A)	154.6	7	NA
0WQI7O4NDQ	2	145.7 (N/A)	8.5 (N/A)	154.2	7	NA

Explanatory notes

About this report

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate. (accessible via link).

NatHERS ratings use computer modelling to evaluate a home's energy effi ciency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and energy value*. The thermal performance star rating uses the home's building specifi cations, 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 energy value*.

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 specifi ed 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 fi les may be available from the assessor

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

Generated on 15 May 2024 using FirstRate5: 5.5.4 (3.22)

Property

Address	1, 14 DAVIS CRESCENT, CAERLEON, NSW, 2850
Lot/DP	806/DP1273341
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	11225.1
Prepared by	HIBBARDS PTY LTD

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	107.8	suburban
Unconditioned*	25.4	**NatHERS climate zone**
Total	133.2	65 Orange AP
Garage	19.2	

Accredited assessor

Name	SANTARITA KOLLOSCHE
Business name	Stellar Thermal Assessments
Email	admin@stellarthermal.com
Phone	+61481099915
Accreditation No.	HERA10183
Assessor Accrediting Organisation	HERA
Declaration of interest	Yes, managed

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

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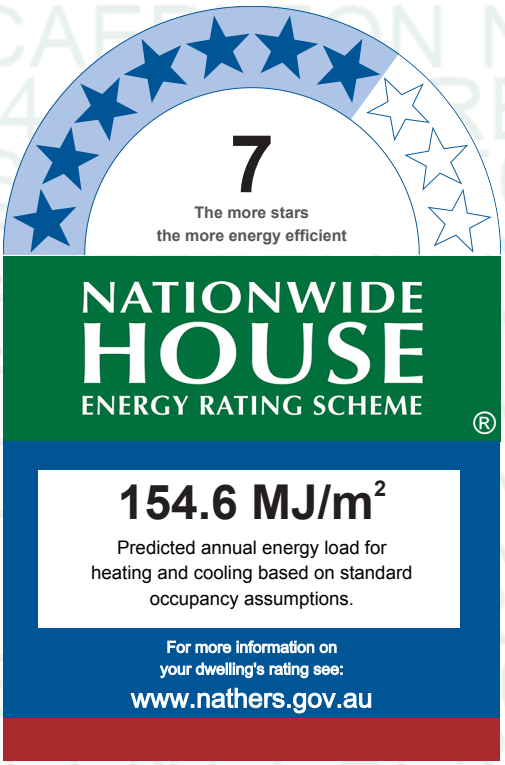
The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

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	144	10.6
Load limits	N/A	N/A

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N/A
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

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 https://www.fr5.com.au/QRCodeLanding?PublicId=JNTNSJHENU When using either link, ensure you are visiting www.fr5.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 NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*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 who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*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

R2.0 HIGH DENSITY INSULATION BATTS TO ALL INTERNAL WALLS INC GARAGE

R2.5 HIGH DENSITY INSULATION BATTS TO ALL EXTERNAL WALLS INC GARAGE

R6.0 BATTS TO ENTIRE CEILING INCLUDING GARAGE.

1.3 ANTICON BLANKET TO ENTIRE CEILING INCLUDING GARAGE.

GLAZING: DOUBLE GLAZING / WIDELINE SMARTGLASS / SINGLE CLEAR

CEILING FANS: N/A

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
LIVING/ENTRY	living	22
BATH	unconditioned	4.7
WC	unconditioned	1.5
BED 1	bedroom	14
BED 2	bedroom	10.7
ENSUITE	nightTime	3.8
BED 3	bedroom	11.1
BED 4	bedroom	10.6
GARAGE / L'DRY	garage	19.2
KITCHEN / FAMILY	kitchen	35.6

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-006-08 A	Al Residential Sliding Window DG 3mm Clear / 6mm Air Gap / 3mm Clear	4.43	0.61	0.58	0.64
WID-028-09 A	BSW Ascend Sliding Window SG 5mmClr	6.55	0.62	0.59	0.65
WID-006-13 A	Al Residential Sliding Window SG 6CS_Clr	4.92	0.62	0.59	0.65
WID-005-01 A	Al Residential Internal Sliding Door SG 4mm Clear	6.25	0.72	0.68	0.76
WID-005-15 A	Al Residential Internal Sliding Door DG 4/6/4	4.15	0.64	0.61	0.67

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
LIVING/ENTRY	WID-006-08 A	W1	1800	2100	sliding	30.0	S	No
LIVING/ENTRY	WID-006-08 A	W2	1800	1200	sliding	45.0	W	No
BATH	WID-028-09 A	W3	900	1200	sliding	45.0	W	No

*Refer to glossary.

WC	WID-028-09 A	W4	900	600	sliding	45.0	W	No
BED 1	WID-006-08 A	W7	1200	2100	sliding	30.0	N	No
BED 2	WID-006-13 A	W9	1500	1500	sliding	45.0	E	No
ENSUITE	WID-028-09 A	W8	900	900	sliding	45.0	E	No
BED 3	WID-006-13 A	W10	1500	1500	sliding	45.0	E	No
BED 4	WID-006-13 A	W11	1500	1500	sliding	45.0	E	No
GARAGE / L'DRY	WID-005-01 A	D4	2100	1500	sliding	45.0	E	No
KITCHEN / FAMILY	WID-005-15 A	D3	2100	2400	sliding	45.0	N	No
KITCHEN / FAMILY	WID-006-08 A	W5	1000	1800	sliding	45.0	W	No
KITCHEN / FAMILY	WID-006-08 A	W6	1800	2400	sliding	30.0	W	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	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 [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
LIVING/ENTRY	2040	820	100.0	S

*Refer to glossary.

GARAGE / L'DRY	2100	2400	0.0	S

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	STA - BV250+ANTIGLARE+BULK	0.64	Dark	Glass fibre batt: R2.5 (R2.5)	Yes
2	FR5 - Double Brick	0.64	Dark		No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
LIVING/ENTRY	1	2440	2654	S	300	Yes
LIVING/ENTRY	1	2440	1357	S	2640	Yes
LIVING/ENTRY	1	2440	4518	W	397	Yes
BATH	1	2440	1799	W	396	Yes
WC	1	2440	902	W	414	Yes
BED 1	1	2440	3600	E	430	Yes
BED 1	1	2440	4072	N	300	Yes
BED 1	1	2440	2568	W	4374	Yes
BED 2	1	2440	3083	E	429	Yes
ENSUITE	1	2440	1316	E	442	Yes
BED 3	1	2440	3202	E	441	Yes
BED 4	1	2440	3049	E	435	Yes
GARAGE / L'DRY	2	2526	3110	S	300	No
GARAGE / L'DRY	1	2526	2770	E	428	Yes
GARAGE / L'DRY	1	2526	441	S	0	Yes
GARAGE / L'DRY	1	2526	2998	E	0	Yes
GARAGE / L'DRY	1	2526	443	N	0	Yes
GARAGE / L'DRY	1	2526	2406	W	1650	Yes
KITCHEN / FAMILY	1	2440	841	S	422	Yes
KITCHEN / FAMILY	1	2440	3969	N	3070	Yes
KITCHEN / FAMILY	1	2440	7910	W	450	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	109.5	Glass fibre batt: R2.0 (R2.0)

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering

*Refer to glossary.

LIVING/ENTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	9.7	Enclosed	R0.0	Tiles
LIVING/ENTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.2	Enclosed	R0.0	Carpet
BATH	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.7	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.5	Enclosed	R0.0	Tiles
BED 1	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	14	Enclosed	R0.0	Carpet
BED 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.7	Enclosed	R0.0	Carpet
ENSUITE	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.8	Enclosed	R0.0	Tiles
BED 3	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	11.1	Enclosed	R0.0	Carpet
BED 4	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.6	Enclosed	R0.0	Carpet
GARAGE / L'DRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	19.2	Enclosed	R0.0	none
KITCHEN / FAMILY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	35.6	Enclosed	R0.0	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
LIVING/ENTRY	Plasterboard	R6.0	Yes
LIVING/ENTRY	Plasterboard	R6.0	Yes
BATH	Plasterboard	R6.0	Yes
WC	Plasterboard	R6.0	Yes
BED 1	Plasterboard	R6.0	Yes
BED 2	Plasterboard	R6.0	Yes
ENSUITE	Plasterboard	R6.0	Yes
BED 3	Plasterboard	R6.0	Yes
BED 4	Plasterboard	R6.0	Yes
GARAGE / L'DRY	Plasterboard	R6.0	Yes
KITCHEN / FAMILY	Plasterboard	R6.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
LIVING/ENTRY	5	Downlights	80	80	Sealed
BATH	1	Downlights	80	80	Sealed
BATH	1	Exhaust Fans	200	200	Sealed

*Refer to glossary.

WC	1	Downlights	80	80	Sealed
BED 1	1	Downlights	80	80	Sealed
BED 2	1	Downlights	80	80	Sealed
ENSUITE	1	Downlights	80	80	Sealed
ENSUITE	1	Exhaust Fans	200	200	Sealed
BED 3	1	Downlights	80	80	Sealed
BED 4	1	Downlights	80	80	Sealed
KITCHEN / FAMILY	4	Downlights	80	80	Sealed
KITCHEN / FAMILY	1	Exhaust Fans	200	200	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.3	0.73	Dark

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/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 Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

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

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

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

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*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

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your 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 category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. 0WQI7O4NDQ

Generated on 16 May 2024 using FirstRate5: 5.5.4 (3.22)

Property

Address	2, 14 DAVIS CRESCENT, CAERLEON, NSW, 2850
Lot/DP	806/DP1273341
NCC Class*	Class 1a
Floor/all Floors	
Type	New Home

Plans

Main plan	11225.2
Prepared by	HIBBARDS PTY LTD

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	107.8	suburban
Unconditioned*	25.4	**NatHERS climate zone**
Total	133.2	65 Orange AP
Garage	19.2	

Accredited assessor

Name	SANTARITA KOLLOSCHE
Business name	Stellar Thermal Assessments
Email	admin@stellarthermal.com
Phone	+61481099915
Accreditation No.	HERA10183
Assessor Accrediting Organisation	HERA
Declaration of interest	Yes, managed

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

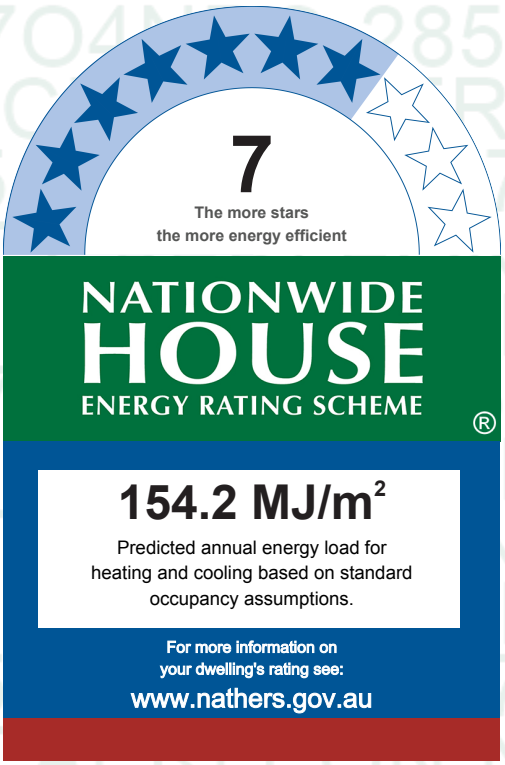
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses 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	145.7	8.5
Load limits	N/A	N/A

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	N/A
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

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 https://www.fr5.com.au/QRCodeLanding?PublicId=0WQI7O4NDQ When using either link, ensure you are visiting www.fr5.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 NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:
- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:
- Yes
- No
- NA – not applicable

Outdoor living area:
- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:
- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*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 who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*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

R2.0 HIGH DENSITY INSULATION BATTS TO ALL INTERNAL WALLS INC GARAGE

R2.5 HIGH DENSITY INSULATION BATTS TO ALL EXTERNAL WALLS INC GARAGE

R6.0 BATTS TO ENTIRE CEILING INCLUDING GARAGE.

1.3 ANTICON BLANKET TO ENTIRE CEILING INCLUDING GARAGE.

GLAZING: DOUBLE GLAZING / SINGLE CLEAR (D/HUNG)

CEILING FANS: N/A

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
LIVING/ENTRY	living	22
BATH	unconditioned	4.7
WC	unconditioned	1.5
BED 1	bedroom	14
BED 2	bedroom	10.7
ENSUITE	nightTime	3.8
BED 3	bedroom	11.1
BED 4	bedroom	10.6
GARAGE / L'DRY	garage	19.2
KITCHEN / FAMILY	kitchen	35.6

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-006-08 A	Al Residential Sliding Window DG 3mm Clear / 6mm Air Gap / 3mm Clear	4.43	0.61	0.58	0.64
WID-003-01 A	Al Residential Double Hung Window SG 3Clr	6.24	0.74	0.7	0.78
WID-028-09 A	BSW Ascend Sliding Window SG 5mmClr	6.55	0.62	0.59	0.65
WID-005-01 A	Al Residential Internal Sliding Door SG 4mm Clear	6.25	0.72	0.68	0.76
WID-005-15 A	Al Residential Internal Sliding Door DG 4/6/4	4.15	0.64	0.61	0.67

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
LIVING/ENTRY	WID-006-08 A	W2	1800	1200	sliding	45.0	SE	No
LIVING/ENTRY	WID-003-01 A	W1	1800	600	double_hung	45.0	SW	No
LIVING/ENTRY	WID-003-01 A	W1A	1800	600	double_hung	45.0	SW	No

*Refer to glossary.

BATH	WID-028-09 A	W3	900	1200	sliding	45.0	SE	No
WC	WID-028-09 A	W4	900	600	sliding	45.0	SE	No
BED 1	WID-006-08 A	W7	1200	2100	sliding	30.0	NE	No
BED 2	WID-006-08 A	W9	1500	1500	sliding	45.0	NW	No
ENSUITE	WID-006-08 A	W8	900	900	sliding	45.0	NW	No
BED 3	WID-006-08 A	W10	1500	1500	sliding	45.0	NW	No
BED 4	WID-006-08 A	W11	1500	1500	sliding	45.0	NW	No
GARAGE / L'DRY	WID-005-01 A	D4	2100	1500	sliding	45.0	NW	No
KITCHEN / FAMILY	WID-006-08 A	W5	1000	1800	sliding	45.0	SE	No
KITCHEN / FAMILY	WID-006-08 A	W6	1800	2400	sliding	30.0	SE	No
KITCHEN / FAMILY	WID-005-15 A	D3	2100	2400	sliding	45.0	NE	No

Roof window* *type and performance value*

Default* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

				Substitution tolerance ranges	
Window ID	**Window description**	**Maximum U-value***	**SHGC***	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	**Window ID**	**Window no.**	**Opening %**	**Area [m²]**	**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 [m²]**	**Orient-ation**	**Outdoor shade**	**Diffuser**
No Data Available							

External door *schedule*

Location	**Height [mm]**	**Width [mm]**	**Opening %**	**Orientation**

*Refer to glossary.

LIVING/ENTRY	2040	820	100.0	SW
GARAGE / L'DRY	2100	2400	0.0	SW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	STA - BV250+ANTIGLARE+BULK	0.67	Dark	Glass fibre batt: R2.5 (R2.5)	Yes
2	FR5 - Double Brick	0.67	Dark		No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
LIVING/ENTRY	1	2440	4518	SE	397	Yes
LIVING/ENTRY	1	2440	1357	SW	2640	Yes
LIVING/ENTRY	1	2440	2654	SW	300	Yes
BATH	1	2440	1799	SE	396	Yes
WC	1	2440	902	SE	0	Yes
BED 1	1	2440	2568	SE	4374	Yes
BED 1	1	2440	4072	NE	300	Yes
BED 1	1	2440	3600	NW	430	Yes
BED 2	1	2440	3083	NW	429	Yes
ENSUITE	1	2440	1316	NW	442	Yes
BED 3	1	2440	3202	NW	441	Yes
BED 4	1	2440	3059	NW	435	Yes
GARAGE / L'DRY	1	2526	2406	SE	1650	Yes
GARAGE / L'DRY	1	2526	443	NE	0	Yes
GARAGE / L'DRY	1	2526	2992	NW	0	Yes
GARAGE / L'DRY	1	2526	439	SW	0	Yes
GARAGE / L'DRY	1	2526	2770	NW	428	Yes
GARAGE / L'DRY	2	2526	3110	SW	300	No
KITCHEN / FAMILY	1	2440	7910	SE	450	Yes
KITCHEN / FAMILY	1	2440	3969	NE	3070	Yes
KITCHEN / FAMILY	1	2440	841	SW	422	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	109.6	Glass fibre batt: R2.0 (R2.0)

Floor *type*

*Refer to glossary.

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
LIVING/ENTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	9.7	Enclosed	R0.0	Tiles
LIVING/ENTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.2	Enclosed	R0.0	Carpet
BATH	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.7	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.5	Enclosed	R0.0	Tiles
BED 1	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	14	Enclosed	R0.0	Carpet
BED 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.7	Enclosed	R0.0	Carpet
ENSUITE	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	3.8	Enclosed	R0.0	Tiles
BED 3	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	11.1	Enclosed	R0.0	Carpet
BED 4	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.6	Enclosed	R0.0	Carpet
GARAGE / L'DRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	19.2	Enclosed	R0.0	none
KITCHEN / FAMILY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	35.6	Enclosed	R0.0	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
LIVING/ENTRY	Plasterboard	R6.0	Yes
LIVING/ENTRY	Plasterboard	R6.0	Yes
BATH	Plasterboard	R6.0	Yes
WC	Plasterboard	R6.0	Yes
BED 1	Plasterboard	R6.0	Yes
BED 2	Plasterboard	R6.0	Yes
ENSUITE	Plasterboard	R6.0	Yes
BED 3	Plasterboard	R6.0	Yes
BED 4	Plasterboard	R6.0	Yes
GARAGE / L'DRY	Plasterboard	R6.0	Yes
KITCHEN / FAMILY	Plasterboard	R6.0	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
LIVING/ENTRY	5	Downlights	80	80	Sealed

*Refer to glossary.

BATH	1	Downlights	80	80	Sealed
BATH	1	Exhaust Fans	200	200	Sealed
WC	1	Downlights	80	80	Sealed
BED 1	1	Downlights	80	80	Sealed
BED 2	1	Downlights	80	80	Sealed
ENSUITE	1	Downlights	80	80	Sealed
ENSUITE	1	Exhaust Fans	200	200	Sealed
BED 3	1	Downlights	80	80	Sealed
BED 4	1	Downlights	80	80	Sealed
KITCHEN / FAMILY	4	Downlights	80	80	Sealed
KITCHEN / FAMILY	1	Exhaust Fans	200	200	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.3	0.44	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/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 Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

*Refer to glossary.

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

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

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

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

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*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

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your 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 category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.