

Nationwide House Energy Rating Scheme® Class 2 Summary

NatHERS® Certificate No. #HR-NOSJEI-01

Generated on 04 Nov 2025 using Hero 4.1

Property

Address 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NatHERS climate zone 56 - Mascot AMO



Accredited assessor

Name Duncan Hope
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Accreditation No. DMN/14/1658
Assessor Accrediting Organisation DMN

Verification

To verify this certificate,
scan the QR code or visit

<http://www.hero-software.com.au/pdf/HR-NOSJEI-01>

When using either link,
ensure you are visiting
<http://www.hero-software.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.

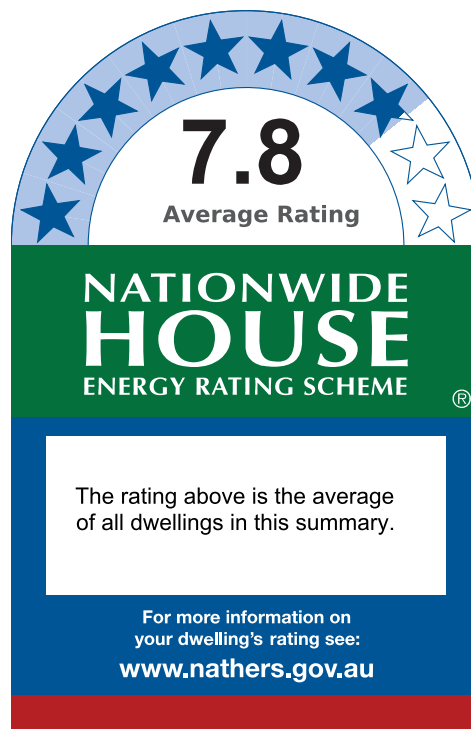
The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

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/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
HR-2DM9B2-01	Unit 01	21.1 (34)	5.2 (21)	26.3	7.4	n/a
HR-HUFDYB-01	Unit 02	15.9 (34)	5.4 (21)	21.3	7.9	n/a
HR-MY09EP-01	Unit 03	10.6 (34)	13.6 (21)	24.3	7.6	n/a

Thermal performance Star rating



NCC heating and cooling maximum loads MJ/m².yr

Limits taken from ABCB Standard 2022

	Heating	Cooling
Average load	14.2	8.3
Maximum load	21.1	13.6
Average limit	28.1	20.0
Maximum limit	34.4	21.4

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-Z0WA2B-01	Unit 04	10.3 (34)	6.4 (21)	16.7	8.4	n/a
HR-SC7RQT-01	Unit 05	11.3 (34)	6.3 (21)	17.6	8.3	n/a
HR-LDAXAH-01	Unit 06	13.0 (34)	12.0 (21)	25.0	7.5	n/a
HR-1OBLH6-01	Unit 07	11.2 (34)	9.9 (21)	21.0	7.9	n/a
HR-U7PU8W-01	Unit 08	13.9 (34)	8.2 (21)	22.1	7.9	n/a
HR-D9RQEE-01	Unit 09	14.5 (34)	8.1 (21)	22.6	7.8	n/a
HR-P9AKCN-01	Unit 10	12.8 (34)	8.0 (21)	20.8	8.0	n/a
HR-OA4GJD-01	Unit 11	15.4 (34)	8.1 (21)	23.5	7.7	n/a
HR-TMURTA-01	Unit 12	13.7 (34)	7.9 (21)	21.6	7.9	n/a
HR-9E6UE2-01	Unit 13	17.7 (34)	7.7 (21)	25.4	7.4	n/a
HR-293U5A-01	Unit 14	15.9 (34)	7.4 (21)	23.3	7.7	n/a
HR-DK1O65-01	Unit 15	16.4 (34)	10.9 (21)	27.3	7.3	n/a
Averages	15x (Total)	14.2	8.3	22.6	7.8	n/a
Maximum Loads and Minimum Ratings		21.1	13.6	27.3	7.3	n/a

Explanatory notes

About the ratings

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.

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 home's 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. #HR-2DM9B2-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 01, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 2 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 127.2	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 127.2	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
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Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

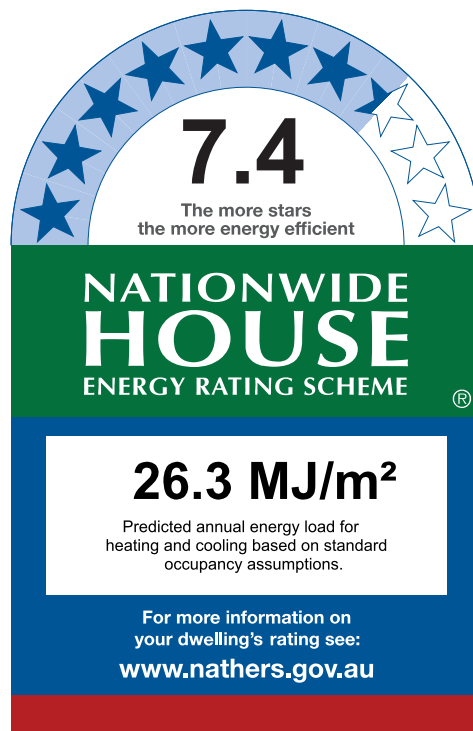
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Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	21.1	5.2
Load limits	34	21

Features determining load limits

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

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

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* 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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m²)
Kitchen/Living	Kitchen/Living	54.72
Pantry	Day Time	4.12
Bedroom 01	Bedroom	13.58
WIR	Night Time	5.76
Ensuite	Night Time	6.51
Bathroom	Day Time	7.28
Bedroom 02	Bedroom	14.81
Hallway	Day Time	17.80
WC	Day Time	2.64

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-001-002	W02	1500	1800	Sliding	45	N	None
Bedroom 02	AWS-112-380	W01	2400	3300	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None



Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	2180	W		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2401	N		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	4064	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3341	S	1348	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	4433	W		Yes
Ensuite	HEBEL-75-REFL-CAV1	2700	1948	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	4246	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes
WIR	HEBEL-75-REFL-CAV1	2700	2104	W		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	65.2	0.00
INT-PB	Internal Plasterboard Stud Wall	85.4	0.00

Floor *type*

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	1.42	Tile (8mm)
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	3.2	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	11.2	N/A	1.42	Carpet
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.7	N/A	1.42	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	9.2	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.9	N/A	1.42	Tile (8mm)
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	1.7	N/A	0.00	Tile (8mm)
Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	17.4	N/A	1.42	Tile (8mm)
Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	0.4	N/A	0.00	Tile (8mm)

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	54.7	N/A	1.42	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	1.42	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.6	N/A	1.42	Tile (8mm)
WIR	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.5	N/A	1.42	Carpet
WIR	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	1.2	N/A	0.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WIR	1	Downlight	100	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		



Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

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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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-HUFDYB-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 02, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 2 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 146.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 146.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

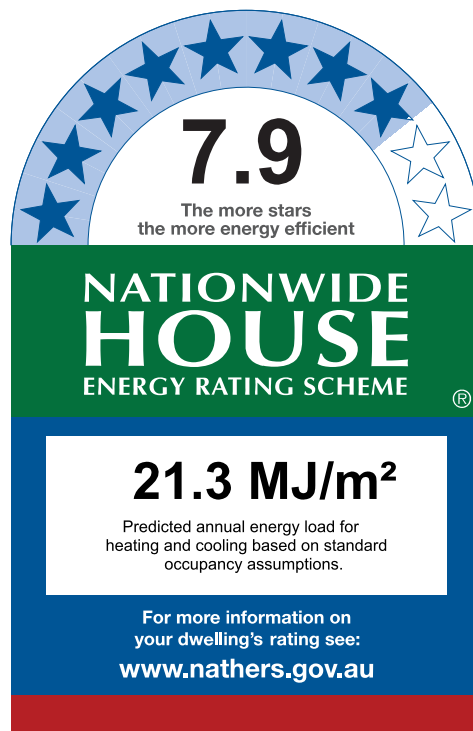
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

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

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.9	5.4
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-HUFDYB-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐

* 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?		☐	☐	☐	☐
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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?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	54.72
Pantry	Day Time	4.12
Bedroom 01	Bedroom	13.58
WIR	Night Time	5.76
Ensuite	Night Time	6.51
Bathroom	Day Time	7.28
Bedroom 02	Bedroom	13.46
Hallway	Day Time	22.68
WC	Day Time	2.80
Bedroom 03	Bedroom	10.59
Linen	Day Time	4.45

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-001-002	W02	1500	1800	Sliding	45	N	None

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 02	AWS-112-380	W01	2400	2978	Sliding Door	45	S	None
Bedroom 03	AWS-112-380	W04	2400	3195	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
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External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	2180	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2401	N		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	4064	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	4026	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3343	S	1352	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	902	W	11064	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	3198	S	1352	Yes
Ensuite	HEBEL-75-REFL-CAV1	2700	1948	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	4246	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes
WIR	HEBEL-75-REFL-CAV1	2700	2104	E		Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	71.7	0.00
INT-PB	Internal Plasterboard Stud Wall	109.7	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	7.3	N/A	1.42	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	13.6	N/A	1.42	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	13.5	N/A	1.42	Carpet

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 03	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.6	N/A	1.42	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.5	N/A	1.42	Tile (8mm)
Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	22.7	N/A	1.42	Tile (8mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	54.7	N/A	1.42	Tile (8mm)
Linen	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.5	N/A	1.42	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	1.42	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	1.42	Tile (8mm)
WIR	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.8	N/A	1.42	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Linen	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Linen	1	Downlight	100	Sealed

* Refer to glossary.

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WIR	1	Downlight	100	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
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Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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.
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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.
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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.
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.
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. #HR-MY09EP-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 03, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 2 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 50.1	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 50.1	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

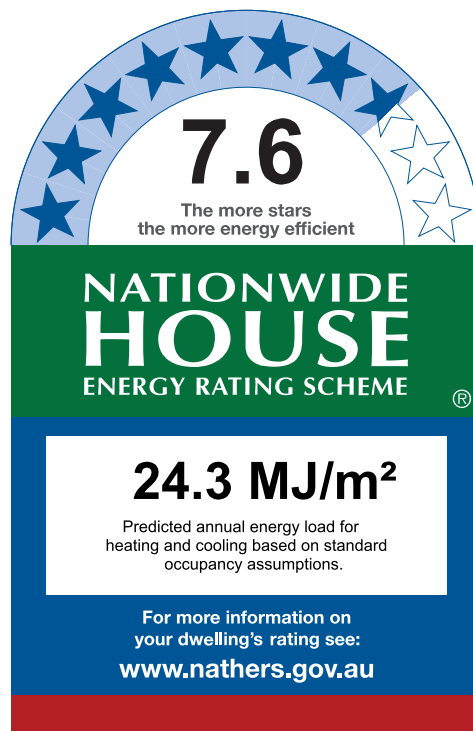
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	10.6	13.6
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-MY09EP-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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 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.



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

The checklist covers important items impacting the dwelling's ratings.

It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and 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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐	☐	☐	☐
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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?		☐	☐	☐	☐
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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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	34.30
Bedroom 01	Bedroom	10.94
Bathroom	Day Time	4.81

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-112-380	W03	2400	3236	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W01	2400	5515	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W02	2400	1065	Sliding Door	45	E	None

Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

**Custom* roof windows**

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	HEBEL-75-REFL-CAV1	2700	3497	S	2453	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	5881	S	1348	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	1304	E	4904	Yes



Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	51.8	0.00
INT-PB	Internal Plasterboard Stud Wall	17.3	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.8	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.9	N/A	0.00	Carpet
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	1.7	N/A	1.42	Tile (8mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	32.7	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Kitchen/Living	5	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorbptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium



Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
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No Whole of Home Data

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
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No Whole of Home Data

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
------	-----------	--------------------------	--------------------------------	------------------------------------

No Whole of Home Data

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
------	-----------	--	-------------------------

No Whole of Home Data

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
------	---------------	--------------------------

No Whole of Home Data

Battery *schedule*

Type	Storage Capacity [kWh]
------	------------------------

No Whole of Home Data

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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
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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.
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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. #HR-Z0WA2B-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 04, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 3 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 139.9	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 139.9	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

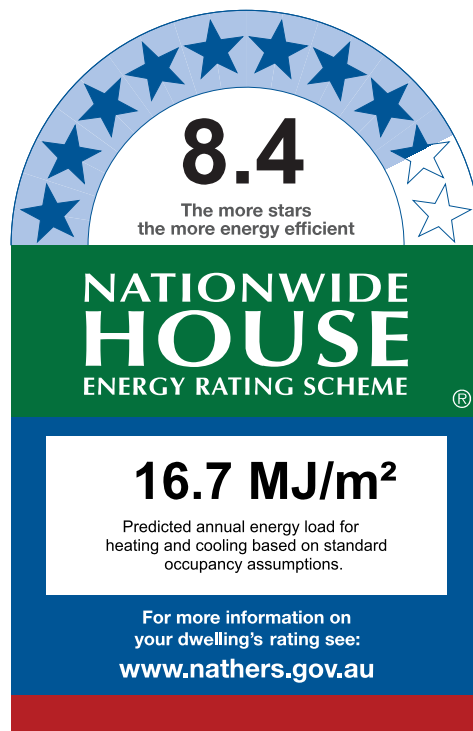
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NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

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	10.3	6.4
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-Z0WA2B-01>.

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* 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.

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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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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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?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐	☐	☐	☐
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	54.72
Pantry	Day Time	4.12
Bedroom 01	Bedroom	13.58
WIR	Night Time	5.76
Ensuite	Night Time	6.51
Bathroom	Day Time	7.28
Bedroom 02	Bedroom	13.62
Hallway	Day Time	17.96
WC	Day Time	2.64
Laundry	Day Time	3.41
Bedroom 03	Bedroom	10.32

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-001-002	W02	2400	1800	Sliding	45	N	None



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 02	AWS-112-380	W01	2400	2815	Sliding Door	45	S	None
Bedroom 03	AWS-112-380	W04	2400	2854	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
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External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	2180	W		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2401	N		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	4064	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	2998	S	1371	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	4433	W		Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	2854	S	1363	Yes
Ensuite	HEBEL-75-REFL-CAV1	2700	1948	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	4246	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes
WIR	HEBEL-75-REFL-CAV1	2700	2104	W		Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	63.1	0.00
INT-PB	Internal Plasterboard Stud Wall	111.4	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	7.3	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	13.6	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	13.6	N/A	0.00	Carpet
Bedroom 03	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.3	N/A	0.00	Timber (12mm)

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.5	N/A	0.00	Tile (8mm)
Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.0	N/A	0.00	Tile (8mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	54.7	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	3.4	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.6	N/A	0.00	Tile (8mm)
WIR	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.8	N/A	0.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
WIR	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	1	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Hallway	3	Downlight	100	Sealed
Laundry	1	Downlight	100	Sealed



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WIR	1	Downlight	100	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
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* Refer to glossary.



Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-SC7RQT-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 05, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 3 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 142.7	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 142.7	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

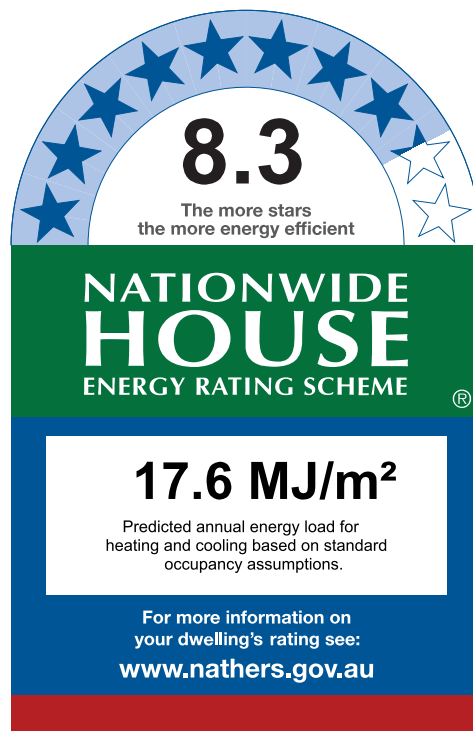
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	11.3	6.3
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-SC7RQT-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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?	☐	☐	☐	☐	☐
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Does the heating 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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m²)
Kitchen/Living	Kitchen/Living	54.72
Pantry	Day Time	4.12
Bedroom 01	Bedroom	13.58
WIR	Night Time	5.76
Ensuite	Night Time	6.51
Bathroom	Day Time	7.28
Bedroom 02	Bedroom	12.45
Hallway	Day Time	22.68
WC	Day Time	2.80
Bedroom 03	Bedroom	9.56
Linen	Day Time	3.18

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-001-002	W02	2400	1800	Sliding	45	N	None



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 02	AWS-112-380	W01	2400	1661	Sliding Door	45	S	None
Bedroom 03	AWS-112-380	W04	2400	2528	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
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External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	2180	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2401	N		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	4064	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	4026	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3006	S	1347	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	909	W	8997	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	2928	S	1351	Yes
Ensuite	HEBEL-75-REFL-CAV1	2700	1948	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	4246	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes
WIR	HEBEL-75-REFL-CAV1	2700	2104	E		Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	69.7	0.00
INT-PB	Internal Plasterboard Stud Wall	108.7	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	7.3	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	13.6	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	12.4	N/A	0.00	Carpet

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 03	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	9.5	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.5	N/A	0.00	Tile (8mm)
Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	22.7	N/A	0.00	Tile (8mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	54.7	N/A	0.00	Tile (8mm)
Linen	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	3.2	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	0.00	Tile (8mm)
WIR	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.8	N/A	0.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
WIR	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Hallway	3	Downlight	100	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Linen	1	Downlight	100	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WIR	1	Downlight	100	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
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* Refer to glossary.



Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-LDAXAH-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 06, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 3 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 50.3	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 50.3	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

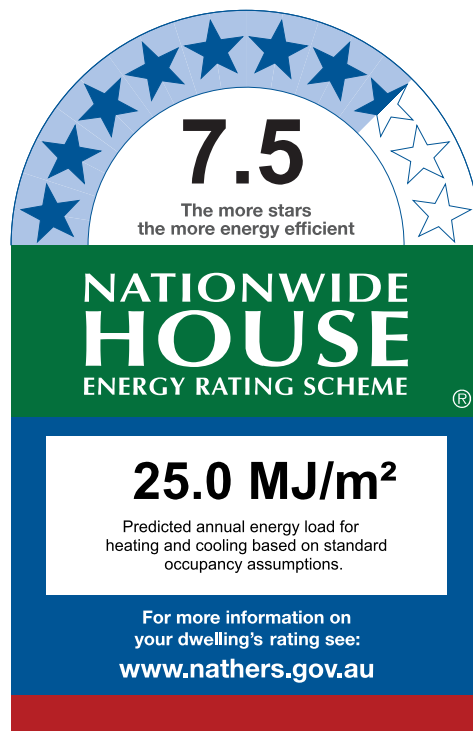
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	13.0	12.0
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-LDAXAH-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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 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 as 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.



Room *schedule*

Room	Zone Type	Area (m²)
Kitchen/Living	Kitchen/Living	34.58
Bedroom 01	Bedroom	11.14
Bathroom	Day Time	4.55

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-112-380	W03	2400	3236	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W01	2400	4975	Sliding Door	45	S	None
Kitchen/Living	AWS-112-380	W02	2400	1065	Sliding Door	45	E	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

* Refer to glossary.

**Custom* roof windows**

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

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	HEBEL-75-REFL-CAV1	2700	3725	S	2453	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	5047	S	1353	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	1304	E	3743	Yes



Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	52.9	0.00
INT-PB	Internal Plasterboard Stud Wall	22.6	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.5	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	11.1	N/A	0.00	Carpet
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	34.6	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 01	2	Downlight	100	Sealed
Kitchen/Living	5	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium



Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-1OBLH6-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 07, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 4 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 118.3	Suburban
Unconditioned* 6.9	NatHERS climate zone
Total 125.2	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

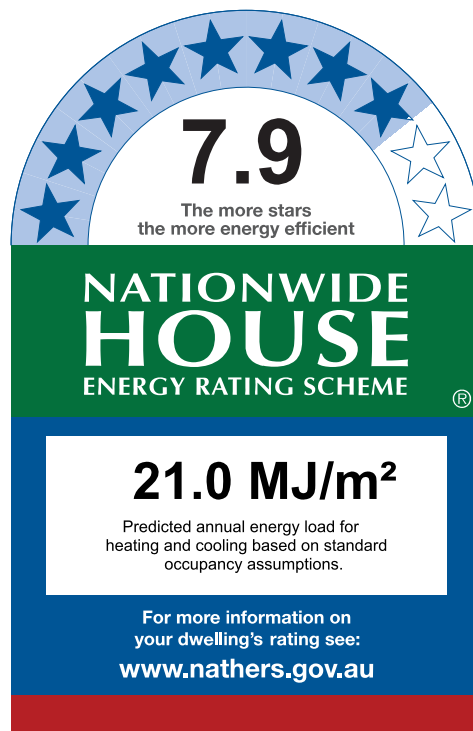
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	11.2	9.9
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-1OBLH6-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
---	--	--------------------------	--------------------------	--------------------------	--------------------------

Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m²)
Kitchen/Living	Kitchen/Living	58.02
Pantry	Day Time	4.12
Bathroom	Unconditioned	6.92
Bedroom 02	Bedroom	10.51
Bedroom 01	Bedroom	19.57
Ensuite	Night Time	6.74
WC	Day Time	2.48
Entry Hallway	Day Time	16.88

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W08	2700	478	Awning	60	W	None

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-005-002	W13	2400	1104	Double Hung	45	S	None
Bedroom 01	AWS-018-001	W12	2400	1090	Hinged Door	90	S	None
Bedroom 02	AWS-018-001	W11	2400	1050	Hinged Door	90	S	None
Bedroom 02	AWS-126-021	W09	2700	411	Awning	60	W	None
Bedroom 02	AWS-005-002	W10	2400	1050	Double Hung	45	S	None
Entry Hallway	AWS-126-021	W07	2700	995	Awning	60	W	None
Kitchen/Living	AWS-001-002	W05	1500	2100	Sliding	45	W	None
Kitchen/Living	AWS-126-021	W06	2700	1005	Awning	60	W	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
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Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	W		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1113	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1130	S	496	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	254	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	264	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1130	S	505	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1189	S		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1066	S	513	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	265	S		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1070	S	513	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	597	S		Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7093	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

* Refer to glossary.

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	72.3	0.00
INT-PB	Internal Plasterboard Stud Wall	77.2	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	7.0	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.5	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.7	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	17.0	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Entry Hallway	2	Downlight	100	Sealed

* Refer to glossary.

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Entry Hallway	1	Exhaust Fan	350	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorbance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
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Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-U7PU8W-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 08, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 4 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 121.1	Suburban
Unconditioned* 6.9	NatHERS climate zone
Total 128.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

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 J2D2(2)(a) and (3) 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	13.9	8.2
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-U7PU8W-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	57.99
Pantry	Day Time	4.12
WC	Day Time	2.80
Ensuite 01	Night Time	5.74
Bedroom 01	Bedroom	19.09
Bedroom 02	Bedroom	10.53
Bathroom	Unconditioned	6.93
Entry Hallway	Day Time	18.84
Laundry	Day Time	2.00

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W02	2700	478	Awning	60	E	None
Bedroom 01	AWS-018-001	W17	2400	1090	Hinged Door	90	S	None
Bedroom 01	AWS-005-002	W16	2400	1095	Double Hung	45	S	None
Bedroom 02	AWS-126-021	W01	2700	411	Awning	60	E	None
Bedroom 02	AWS-005-002	W19	2400	1050	Double Hung	45	S	None
Bedroom 02	AWS-018-001	W18	2400	1050	Hinged Door	90	S	None
Entry Hallway	AWS-126-021	W04	2700	999	Awning	60	E	None
Kitchen/Living	AWS-126-021	W01	2700	1005	Awning	60	E	None
Kitchen/Living	AWS-001-002	W02	1500	2100	Sliding	45	E	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	



Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
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None

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
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None

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
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HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No
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External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	201	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	692	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	289	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1123	S	479	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	273	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1119	S	479	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	275	S		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	1108	S		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	565	S		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1103	S	495	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	259	S		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1075	S	495	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	2840	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	4246	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	82.7	0.00
INT-PB	Internal Plasterboard Stud Wall	80.7	0.00

Floor *type*

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	7.0	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.9	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.7	N/A	0.00	Carpet
Ensuite 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.9	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.0	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	0.00	Tile (8mm)

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite 01	1	Downlight	100	Sealed
Ensuite 01	1	Exhaust Fan	350	Sealed
Entry Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	100	Sealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorbptance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No



Appliance *schedule*

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
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No Whole of Home Data

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
------	----------	-----------	----------------------------------	----------------------

No Whole of Home Data

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
------	-----------	--------------------	--------------------------	------------------------------

No Whole of Home Data

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
------	-----------	----------------------------------	----------------------

No Whole of Home Data

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
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No Whole of Home Data

Battery *schedule*

Type	Storage Capacity [kWh]
------	------------------------

No Whole of Home Data

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-D9RQEE-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 09, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 5 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 118.3	Open
Unconditioned* 6.9	NatHERS climate zone
Total 125.2	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

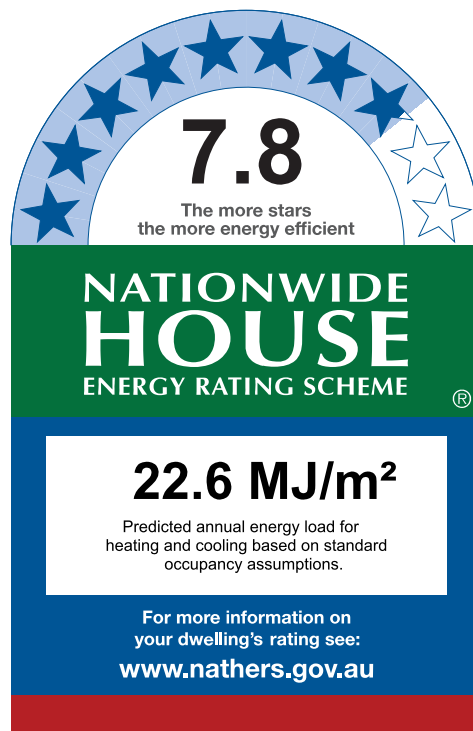
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	14.5	8.1
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-D9RQEE-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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?	☐	☐	☐	☐	☐
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Does the heating 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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	58.02
Pantry	Day Time	4.12
Bathroom	Unconditioned	6.92
Bedroom 02	Bedroom	10.51
Bedroom 01	Bedroom	19.57
Ensuite	Night Time	6.74
WC	Day Time	2.48
Entry Hallway	Day Time	16.88

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W08	2400	478	Awning	60	W	None



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-018-001	W12	2400	1090	Hinged Door	90	S	None
Bedroom 01	AWS-005-002	W13	2400	1104	Double Hung	45	S	None
Bedroom 02	AWS-126-021	W09	2400	411	Awning	60	W	None
Bedroom 02	AWS-005-002	W10	2400	1050	Double Hung	45	S	None
Bedroom 02	AWS-018-001	W11	2400	1050	Hinged Door	90	S	None
Entry Hallway	AWS-126-021	W07	2400	995	Awning	60	W	None
Kitchen/Living	AWS-001-002	W05	1500	2100	Sliding	45	W	None
Kitchen/Living	AWS-126-021	W06	2400	1005	Awning	60	W	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
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Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	W		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	5080	S	496	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	2998	S	513	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7093	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	72.3	0.00
INT-PB	Internal Plasterboard Stud Wall	77.2	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.6	N/A	0.00	Carpet

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	16.9	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Entry Hallway	2	Downlight	100	Sealed
Entry Hallway	1	Exhaust Fan	350	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed



Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy schedule

Type	Orientation	Generation Capacity [kW]
No Whole of Home Data		

Battery schedule

Type	Storage Capacity [kWh]
------	------------------------



Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-P9AKCN-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 10, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 5 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 121.1	Open
Unconditioned* 6.9	NatHERS climate zone
Total 128.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

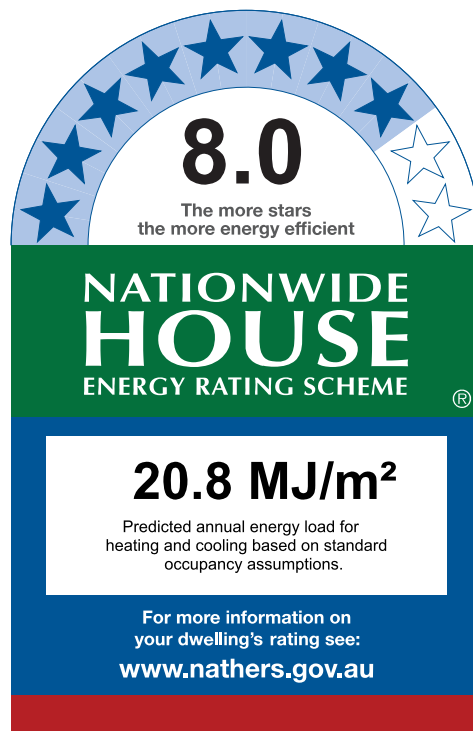
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	12.8	8.0
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-P9AKCN-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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 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.



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

The checklist covers important items impacting the dwelling's ratings.

It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and 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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	57.97
Pantry	Day Time	4.12
WC	Day Time	2.80
Ensuite 01	Night Time	5.74
Bedroom 01	Bedroom	19.09
Bedroom 02	Bedroom	10.53
Bathroom	Unconditioned	6.93
Entry Hallway	Day Time	18.84
Laundry	Day Time	2.00

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W02	2400	478	Awning	60	E	None
Bedroom 01	AWS-005-002	W16	2400	1095	Double Hung	45	S	None
Bedroom 01	AWS-018-001	W17	2400	1090	Hinged Door	90	S	None
Bedroom 02	AWS-126-021	W01	2400	411	Awning	60	E	None
Bedroom 02	AWS-018-001	W18	2400	1050	Hinged Door	90	S	None
Bedroom 02	AWS-005-002	W19	2400	1050	Double Hung	45	S	None
Entry Hallway	AWS-126-021	W04	2400	999	Awning	60	E	None
Kitchen/Living	AWS-126-021	W01	2400	1005	Awning	60	E	None
Kitchen/Living	AWS-001-002	W02	1500	2100	Sliding	45	E	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

* Refer to glossary.

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
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None

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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None

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	5080	S	479	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3002	S	495	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7086	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	82.7	0.00
INT-PB	Internal Plasterboard Stud Wall	80.7	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
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Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.1	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.8	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.0	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite 01	1	Downlight	100	Sealed
Ensuite 01	1	Exhaust Fan	350	Sealed
Entry Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	100	Sealed

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				



Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-OA4GJD-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 11, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 6 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 118.3	Open
Unconditioned* 6.9	NatHERS climate zone
Total 125.2	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

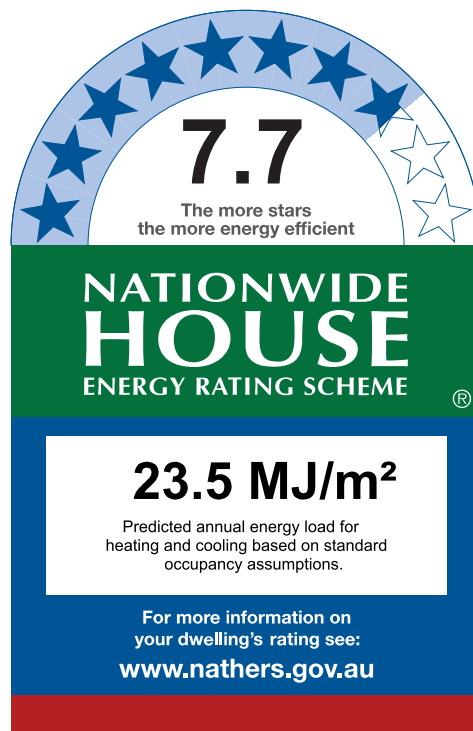
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

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

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.4	8.1
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-OA4GJD-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

* 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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	58.02
Pantry	Day Time	4.12
Bathroom	Unconditioned	6.92
Bedroom 02	Bedroom	10.51
Bedroom 01	Bedroom	19.57
Ensuite	Night Time	6.74
WC	Day Time	2.48
Entry Hallway	Day Time	16.88

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W08	2400	478	Awning	60	W	None



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-005-002	W13	2400	1104	Double Hung	45	S	None
Bedroom 01	AWS-018-001	W12	2400	1090	Hinged Door	90	S	None
Bedroom 02	AWS-126-021	W09	2400	411	Awning	60	W	None
Bedroom 02	AWS-018-001	W11	2400	1050	Hinged Door	90	S	None
Bedroom 02	AWS-005-002	W10	2400	1050	Double Hung	45	S	None
Entry Hallway	AWS-126-021	W07	2400	995	Awning	60	W	None
Kitchen/Living	AWS-001-002	W05	1500	2100	Sliding	45	W	None
Kitchen/Living	AWS-126-021	W06	2400	1005	Awning	60	W	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
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Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	W		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2620	S	504	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2460	S	504	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1199	S	513	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1799	S	513	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7093	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	72.3	0.00
INT-PB	Internal Plasterboard Stud Wall	77.2	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
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Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.6	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	16.9	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Entry Hallway	2	Downlight	100	Sealed
Entry Hallway	1	Exhaust Fan	350	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity



Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

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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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-TMURTA-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 12, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 6 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 121.1	Open
Unconditioned* 6.9	NatHERS climate zone
Total 128.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

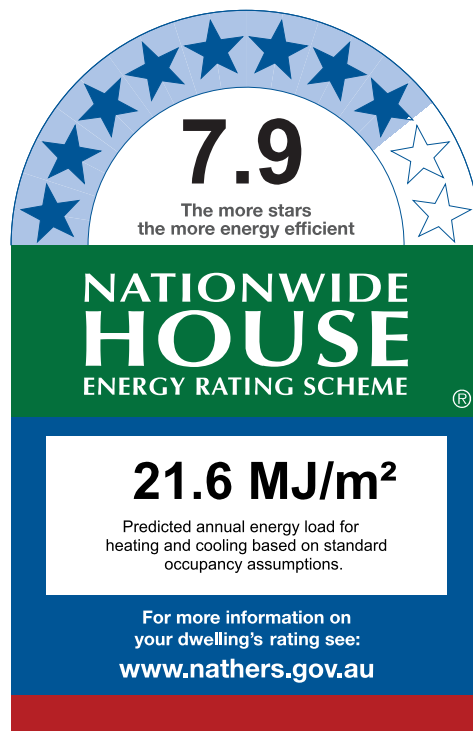
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	13.7	7.9
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-TMURTA-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	57.97
Pantry	Day Time	4.12
WC	Day Time	2.80
Ensuite 01	Night Time	5.74
Bedroom 01	Bedroom	19.09
Bedroom 02	Bedroom	10.53
Bathroom	Unconditioned	6.93
Entry Hallway	Day Time	18.84
Laundry	Day Time	2.00

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W02	2400	478	Awning	60	E	None
Bedroom 01	AWS-018-001	W17	2400	1090	Hinged Door	90	S	None
Bedroom 01	AWS-005-002	W16	2400	1095	Double Hung	45	S	None
Bedroom 02	AWS-126-021	W01	2400	411	Awning	60	E	None
Bedroom 02	AWS-005-002	W19	2400	1050	Double Hung	45	S	None
Bedroom 02	AWS-018-001	W18	2400	1050	Hinged Door	90	S	None
Entry Hallway	AWS-126-021	W04	2400	999	Awning	60	E	None
Kitchen/Living	AWS-126-021	W01	2400	1005	Awning	60	E	None
Kitchen/Living	AWS-001-002	W02	1500	2100	Sliding	45	E	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

* Refer to glossary.

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
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None

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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None

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2438	S	479	Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	2642	S	479	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1794	S	495	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	1208	S	495	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7086	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	82.7	0.00
INT-PB	Internal Plasterboard Stud Wall	80.7	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.1	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.8	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.0	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
None			

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite 01	1	Downlight	100	Sealed
Ensuite 01	1	Exhaust Fan	350	Sealed
Entry Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	100	Sealed

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
None			

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)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				



Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

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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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-9E6UE2-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 13, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 7 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 118.3	Open
Unconditioned* 6.9	NatHERS climate zone
Total 125.2	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

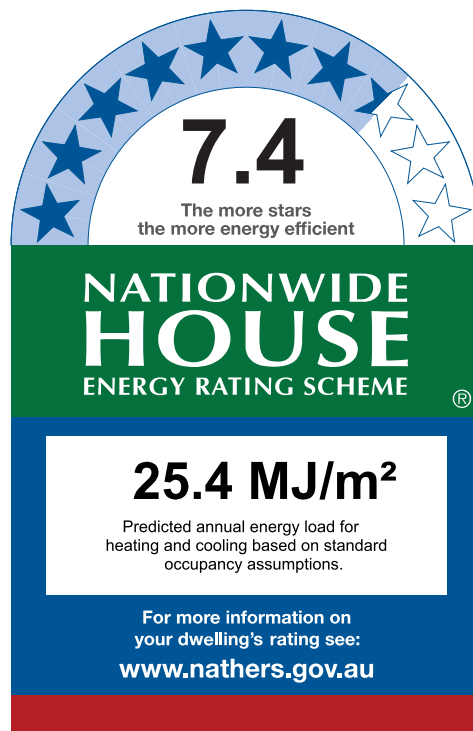
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	17.7	7.7
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-9E6UE2-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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?	☐	☐	☐	☐	☐
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Does the heating 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 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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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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?	☐	☐	☐	☐	☐
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	58.02
Pantry	Day Time	4.12
Bathroom	Unconditioned	6.92
Bedroom 02	Bedroom	10.51
Bedroom 01	Bedroom	19.57
Ensuite	Night Time	6.74
WC	Day Time	2.48
Entry Hallway	Day Time	16.88

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W08	2400	478	Awning	60	W	None



Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-018-001	W12	2400	1090	Hinged Door	90	S	None
Bedroom 01	AWS-005-002	W13	2400	1104	Double Hung	45	S	None
Bedroom 02	AWS-126-021	W09	2400	411	Awning	60	W	None
Bedroom 02	AWS-005-002	W10	2400	1050	Double Hung	45	S	None
Bedroom 02	AWS-018-001	W11	2400	1050	Hinged Door	90	S	None
Entry Hallway	AWS-126-021	W07	2400	995	Awning	60	W	None
Kitchen/Living	AWS-001-002	W05	1500	2100	Sliding	45	W	None
Kitchen/Living	AWS-126-021	W06	2400	1005	Awning	60	W	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
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Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	W		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	5080	S	504	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	W		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	2998	S	513	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7093	W		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	72.3	0.00
INT-PB	Internal Plasterboard Stud Wall	77.2	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.6	N/A	0.00	Carpet

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	16.9	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry Hallway	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Pantry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Entry Hallway	2	Downlight	100	Sealed

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Entry Hallway	1	Exhaust Fan	350	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
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**Hot water system**

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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.
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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 - 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 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.
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.
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. #HR-293U5A-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 14, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 7 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 121.1	Open
Unconditioned* 6.9	NatHERS climate zone
Total 128.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

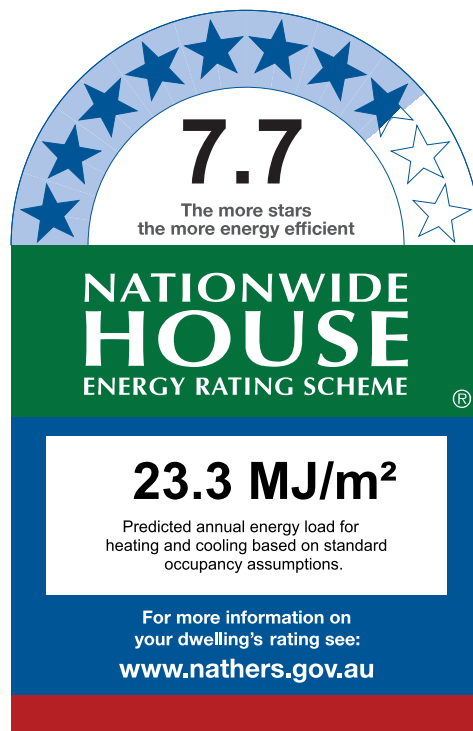
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

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

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.9	7.4
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-293U5A-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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

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.

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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.

Room schedule

Room	Zone Type	Area (m ²)
Kitchen/Living	Kitchen/Living	57.97
Pantry	Day Time	4.12
WC	Day Time	2.80
Ensuite 01	Night Time	5.74
Bedroom 01	Bedroom	19.09
Bedroom 02	Bedroom	10.53
Bathroom	Unconditioned	6.93
Entry Hallway	Day Time	18.84
Laundry	Day Time	2.00

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-005-002	RESIDENTIAL SERIES 514 DOUBLE HUNG - SINGLE GLAZED	6.2	0.71	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	AWS-126-021	W02	2400	478	Awning	60	E	None
Bedroom 01	AWS-005-002	W16	2400	1095	Double Hung	45	S	None
Bedroom 01	AWS-018-001	W17	2400	1090	Hinged Door	90	S	None
Bedroom 02	AWS-126-021	W01	2400	411	Awning	60	E	None
Bedroom 02	AWS-018-001	W18	2400	1050	Hinged Door	90	S	None
Bedroom 02	AWS-005-002	W19	2400	1050	Double Hung	45	S	None
Entry Hallway	AWS-126-021	W04	2400	999	Awning	60	E	None
Kitchen/Living	AWS-126-021	W01	2400	1005	Awning	60	E	None
Kitchen/Living	AWS-001-002	W02	1500	2100	Sliding	45	E	None
Kitchen/Living	AWS-112-380	W03	2400	6834	Sliding Door	45	N	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight *type and performance*

Skylight ID	Skylight description
None	

* Refer to glossary.



Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
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None

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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None

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	HEBEL-75-REFL-CAV1	2700	3890	E		Yes
Bedroom 01	HEBEL-75-REFL-CAV1	2700	5080	S	479	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3752	E		Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3002	S	495	Yes
Entry Hallway	HEBEL-75-REFL-CAV1	2700	3247	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	7086	E		Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	8188	N	3956	Yes

Internal wall type

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	82.7	0.00
INT-PB	Internal Plasterboard Stud Wall	80.7	0.00

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
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Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.9	N/A	0.00	Tile (8mm)
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	19.1	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	10.5	N/A	0.00	Carpet
Ensuite 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	5.7	N/A	0.00	Tile (8mm)
Entry Hallway	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	18.8	N/A	0.00	Timber (12mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	58.0	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.0	N/A	0.00	Timber (12mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.1	N/A	0.00	Tile (8mm)
WC	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.8	N/A	0.00	Tile (8mm)

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry Hallway	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
WC	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed



Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite 01	1	Downlight	100	Sealed
Ensuite 01	1	Exhaust Fan	350	Sealed
Entry Hallway	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	100	Sealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
WC	1	Downlight	100	Sealed
WC	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
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* Refer to glossary.



Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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 home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below
Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - 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 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.
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.
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. #HR-DK1O65-01

Generated on 04 Nov 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 15, 22-24 Raglan Street, MANLY, NSW, 2095

Lot/DP

NCC Class* 2

Floor/all Floors 8 of 1 floors

Type New

Plans

Main Plan Job No. 25-02

Prepared by Carlisle Architects

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 172.4	Open
Unconditioned* 3.6	NatHERS climate zone
Total 176.0	56 - Mascot AMO
Garage 0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

NCC Requirements

BCA provisions Volume 1

State/Territory variation Yes

National Construction Code (NCC) requirements

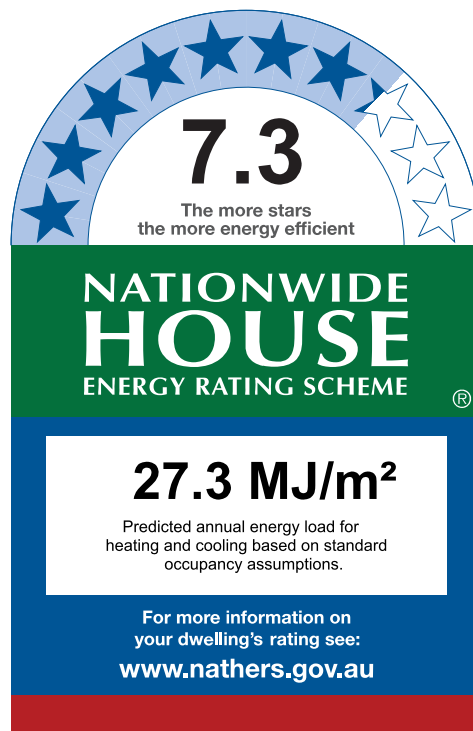
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J2D2(2)(a) and (3) 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	16.4	10.9
Load limits	34	21

Features determining load limits

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

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

<http://www.hero-software.com.au/pdf/HR-DK1O65-01>.

When using either link, ensure you are visiting <http://www.hero-software.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 and 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: 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 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.



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

The checklist covers important items impacting the dwelling's ratings.

It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and 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 what is shown on the NatHERS-stamped plans?

☐☐☐☐☐

* 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?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home 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 as 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?	☐	☐			
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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.



Room schedule

Room	Zone Type	Area (m²)
Kitchen/Living	Kitchen/Living	61.47
Pantry	Day Time	4.82
Storage	Day Time	3.57
Bedroom 01	Bedroom	17.31
WIR 01	Night Time	6.69
Ensuite 01	Night Time	9.45
Hallway 01	Day Time	9.92
Hallway 02	Day Time	9.46
Powder	Day Time	2.55
Laundry	Unconditioned	3.60
Bedroom 03	Bedroom	16.21
Ensuite 03	Night Time	6.54
Ensuite 02	Night Time	6.82
Bedroom 02	Bedroom	17.63

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-001-002	RESIDENTIAL SERIES 502/504 SLIDING WINDOW - SINGLE GLAZED	6.4	0.72	0.68	0.75
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59



Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
AWS-112-380	ComfortEDGE™ Series 759 FBR Sliding Door - Double Glazed with Inline Reveal & Embedded Sill	3.3	0.67	0.64	0.71
AWS-126-021	ComfortEDGE™ Series 755 Awning Window - Single Glazed with Inline Reveal	5.7	0.66	0.62	0.69

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	AWS-112-380	W12	2400	3090	Sliding Door	45	N	None
Bedroom 01	AWS-126-021	W13	2400	890	Awning	60	W	None
Bedroom 01	AWS-126-021	W14	2400	845	Awning	60	W	None
Bedroom 02	AWS-112-380	W01	2400	2570	Sliding Door	45	S	None
Bedroom 02	AWS-126-021	W17	2400	1400	Awning	30	W	None
Bedroom 02	AWS-126-021	W18	2400	2005	Awning	30	W	None
Bedroom 03	AWS-126-021	W05	2400	2005	Awning	30	E	None
Bedroom 03	AWS-126-021	W06	2400	1400	Awning	30	E	None
Bedroom 03	AWS-112-380	W04	2400	2570	Sliding Door	45	S	None
Ensuite 01	AWS-126-021	W15	2400	1170	Awning	60	W	None
Ensuite 02	AWS-126-021	W02	2400	1200	Awning	60	S	None
Ensuite 03	AWS-126-021	W03	2400	1145	Awning	60	S	None
Hallway 01	AWS-018-001	W16	2400	900	Hinged Door	90	W	None
Hallway 02	AWS-018-001	W07	2400	840	Hinged Door	90	E	None
Kitchen/Living	AWS-112-380	W11	2400	7880	Sliding Door	45	N	None
Kitchen/Living	AWS-001-002	W10	2400	2700	Sliding	45	E	None
Laundry	AWS-126-021	W08	2400	1000	Awning	60	E	None
Pantry	AWS-126-021	W09	2400	1395	Awning	30	E	None

* Refer to glossary.



Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
HEBEL-75-REFL-CAV1	Hebel Panel (75mm) Clad Stud Wall	0.50	Medium	2.50	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	HEBEL-75-REFL-CAV1	2700	3692	N	3959	Yes



External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bedroom 01	HEBEL-75-REFL-CAV1	2700	3798	W	1949	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	3878	S	1860	Yes
Bedroom 02	HEBEL-75-REFL-CAV1	2700	5944	W	1949	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	5944	E	1954	Yes
Bedroom 03	HEBEL-75-REFL-CAV1	2700	3874	S	1860	Yes
Ensuite 01	HEBEL-75-REFL-CAV1	2700	2739	W	1949	Yes
Ensuite 02	HEBEL-75-REFL-CAV1	2700	2401	S	1860	Yes
Ensuite 03	HEBEL-75-REFL-CAV1	2700	2400	S	1860	Yes
Hallway 01	HEBEL-75-REFL-CAV1	2700	996	W		Yes
Hallway 02	HEBEL-75-REFL-CAV1	2700	999	E	1954	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	9081	N	3959	Yes
Kitchen/Living	HEBEL-75-REFL-CAV1	2700	5000	E	1954	Yes
Laundry	HEBEL-75-REFL-CAV1	2700	1439	E	1954	Yes
Pantry	HEBEL-75-REFL-CAV1	2700	2689	E	1954	Yes
WIR 01	HEBEL-75-REFL-CAV1	2700	2591	W	1949	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m ²)	Bulk insulation
HEBEL-PARTITION	Hebel Partition Wall	68.1	0.00
INT-PB	Internal Plasterboard Stud Wall	140.5	0.00

Floor *type*

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	17.3	N/A	0.00	Carpet
Bedroom 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	17.7	N/A	0.00	Carpet
Bedroom 03	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	16.2	N/A	0.00	Carpet

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Ensuite 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	9.4	N/A	0.00	Tile (8mm)
Ensuite 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.8	N/A	0.00	Tile (8mm)
Ensuite 03	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.5	N/A	0.00	Tile (8mm)
Hallway 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	9.9	N/A	0.00	Tile (8mm)
Hallway 02	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	9.4	N/A	0.00	Tile (8mm)
Kitchen/Living	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	61.4	N/A	0.00	Tile (8mm)
Laundry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	3.6	N/A	0.00	Tile (8mm)
Pantry	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	4.8	N/A	0.00	Tile (8mm)
Powder	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	2.5	N/A	0.00	Tile (8mm)
Storage	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	3.6	N/A	0.00	Tile (8mm)
WIR 01	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	6.7	N/A	0.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Hallway 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Hallway 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

* Refer to glossary.

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Pantry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Powder	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Storage	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
WIR 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	3	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite 01	1	Downlight	100	Sealed
Ensuite 01	1	Exhaust Fan	350	Sealed
Ensuite 02	1	Downlight	100	Sealed
Ensuite 02	1	Exhaust Fan	350	Sealed
Ensuite 03	1	Downlight	100	Sealed
Ensuite 03	1	Exhaust Fan	350	Sealed
Hallway 01	1	Downlight	100	Sealed
Hallway 02	1	Downlight	100	Sealed
Kitchen/Living	10	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	100	Sealed
Laundry	1	Exhaust Fan	350	Sealed
Pantry	1	Downlight	100	Sealed
Powder	1	Downlight	100	Sealed
Powder	1	Exhaust Fan	350	Sealed
Storage	1	Downlight	100	Sealed

* Refer to glossary.

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
WIR 01	1	Downlight	100	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions (height x width, mm)	Frame spacing (mm)	Steel thickness (BMT mm)	Thermal Break (R-value)
Wall	90 x 40	600	0.75	No

Appliance schedule

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

Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			



Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the home's energy value*.

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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