Nationwide House Energy Rating Scheme® NatHERS® Certificate No. 0009410267

Generated on 29 Apr 2024 using BERS Pro v5.1.7 (3.22)

Property

Address Unit GFAT, 18a Government Road,

BEACON HILL, NSW, 2100

Lot/DP Lot 1 DP 1253466

NCC class' 1a

G of 2 floors Floor/all Floors Type New Home

Plans

Main plan 1235/24 Prepared by JJ Drafting

Construction and environment

Assessed floor area [m2]*

Conditioned* 44.6

Unconditioned* 4.7 Total 49.3

Garage 0.0 Exposure type

Suburban

NatHERS climate zone

56 Mascot (Sydney Airport)



Accredited assessor

Terry Chapman

Business name CHAPMAN ENVIRONMENTAL SERVICES

PTY LTD

Email terry@cesenergy.com.au

Phone 0414 265 292

Accreditation No.

Assessor Accrediting Organisation

ABSA

Declaration completed: no conflicts Declaration of interest

NCC Requirements

NCC provisions Volume Two Strate/Territory variation Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One

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

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

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

Thermal performance Star rating

the more energy efficient

NATIONWIDE

30.0 MJ/m²

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

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

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

Heating Cooling Modelled 14.8 15.2 Load limits N/A N/A

Features determining load limits

Floor Type CSOG (lowest conditioned area) NCC climate zone 1 or 2 Nο Outdoor living area No Outdoor living area ceiling fan

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=FoVyKAbxg When using either link, ensure you are visiting hstar.com.au





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Predicted Whole of Home annual impact by appliance

Energy use

Greenhouse gas emissions

No Whole
of Home
performance
assessment
conducted for this
certificate

No Whole of Home

performance

assessment conducted for this

certificate

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB Standard 2022: NatHERS heating and cooling load limits for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF - Suspended Floor (or a mixture of CSOG and SF)

NA - Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA - Not Applicable

Outdoor Living Area:

Yes

Vο

NA - Not Applicable

Outdoor Living Area Ceiling Fan:

Yes

No

NA - Not Applicable



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.



7 Star Rating as of 29 Apr 2024

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Certificate check	Approval Stage		Construction Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser	Builder	Conser	Occupa
Genuine certificate check		1	1	1	
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 highrise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

7 Star Rating as of 29 A	or 20	J24
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Certificate check	ecked	hority/ ecked	ked	hority	Other
Continued	or ch	t Aut	chec	t Aut	ncy/C
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not include	ıded in tl	he NatHE	RS asse	ssment)	
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	e performa	ance asses	ssment is r	not conduc	eted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
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. Addi but are not limited to: condensation, structural and fire safety requirements and any structurements.					
Additional notes					



Room schedule

Room	Zone Type	Area [m²]
Kitchen/Living 1	Kitchen/Living	27.83
Bathroom	Unconditioned	4.69
Bedroom 1	Bedroom	16.73
Stairs/Void	Unconditioned	15.77

Window and glazed door type and performance

Default windows*

Window ID	Window	Window Maximum		Substitution tolerance ranges		
willdow ib	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow ib	Description	U-value*	знас	SHGC lower limit	SHGC upper limit	
AWS-001-19 A	502/504 Al Sliding Window SG 638CP	4.5	0.59	0.56	0.62	
AWS-024-16 A	702/704 SM Slidemaster Al Sliding Door SG 6.38CPClr	4.5	0.54	0.51	0.57	
AWS-068-03 A	RES SERIES 517 FIXED WINDOW SG 638ComPlsClr	4.4	0.62	0.59	0.65	

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living 1	AWS-024-16 A	D1	2100	4500	Sliding	80	N	No
Kitchen/Living 1	AWS-001-19 A	W6	430	1610	Sliding	45	Е	No
Bathroom	AWS-001-19 A	W5	430	1610	Sliding	45	S	No
Bedroom 1	AWS-068-03 A	W4	725	4500	Fixed	00	S	No
Bedroom 1	AWS-001-19 A	W3	430	2955	Sliding	45	W	No
Stairs/Void	AWS-001-19 A	W2	430	2955	Sliding	45	W	No
Stairs/Void	AWS-024-16 A	W20	900	4500	Sliding	80	N	No
Stairs/Void	AWS-068-03 A	W1	725	4500	Fixed	00	N	No
Stairs/Void	AWS-001-19 A	W7	430	2955	Sliding	45	E	No



Roof window* type and performance value

Default roof windows*

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

No Data Available

Custom roof windows*

Window ID Window Maximum SHGC* Substitution tolerance ranges SHGC SHGC lower limit SHGC upper limit

No Data Available

Roof window* schedule

Width Window Window **Opening** Height **Outdoor** Indoor Location Orientation ID % [mm] [mm] shade shade no.

No Data Available

Skylight* type and performance

 Skylight ID
 Skylight description
 Skylight shaft reflectance

 No Data Available
 Skylight shaft reflectance

Skylight* schedule

Location Skylight Skylight Skylight Skylight Shaft length [m²] Orientation Shade Diffuser

No Data Available

External door schedule

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

 No Data Available

External wall type

Wall ID	Wall type	Wall Solar shade absorptance [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-	Fibro Timber Stud Frame Panel on Battens	0.5	Foil, Anti-glare one side + Bulk Insulation R2.5	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living 1	EW-1	2100	4800	N	1500	No
Kitchen/Living 1	EW-1	2100	6800	E	0	No
Kitchen/Living 1	EW-1	2100	2895	S	0	No
Kitchen/Living 1	EW-1	2100	4295	W	0	No
Bathroom	EW-1	2100	1895	S	0	No
Bathroom	EW-1	2100	2495	W	0	No
Bedroom 1	EW-1	1615	3495	E	500	No
Bedroom 1	EW-1	2200	4800	S	500	No
Bedroom 1	EW-1	1615	3495	W	500	No
Stairs/Void	EW-1	1615	3295	W	500	No
Stairs/Void	EW-1	2200	4800	N	500	No
Stairs/Void	EW-1	1615	3295	E	500	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	3.99	Bulk Insulation, No Air Gap R2.5
IW-002	Timber Stud Frame, Direct Fix Plasterboard	0.00	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living 1	Suspended Floor Timber Frame 19mm	27.83	Enclosed	Bulk Insulation in Contact with Floor R2.5	Cork Tiles or Parquetry 8mm
Bathroom	Suspended Floor Timber Frame 19mm	4.69	Enclosed	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 1 / Kitchen/Living 1	Timber Framed Timber Above Plasterboard 19mm	11.98		Bulk Insulation R2.5	Carpet 10mm



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1 / Bathroom	Timber Framed Timber Above Plasterboard 19mm	4.68		Bulk Insulation R2.5	Carpet 10mm
Stairs/Void / Kitchen/Living 1	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living 1	Timber Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Bathroom	Timber Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R3.5	
Stairs/Void	Plasterboard on Timber	Bulk Insulation R3.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Kitchen/Living 1	6	Downlights - LED	150	Sealed	
Kitchen/Living 1	1	Exhaust Fans	300	Sealed	
Bathroom	1	Downlights - LED	150	Sealed	
Bathroom	1	Exhaust Fans	300	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living 1	1	1400

Roof type

Construction	Added insulation [R-value]	Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.3	Light

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



Appliance schedule

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

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

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Minimum Recommende e efficiency/ capacity performance
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Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		ubstitution e ranges	Assessed daily load
		CER Zone	/STC	310	lower limit	upper limit	[litres]
No Data Available							

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

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

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

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)