

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. 0009033820

Generated on 01 Nov 2023 using BERS Pro v5.1.6 (3.22)

Property

Address Unit Lot B, 17 Haig Avenue,
Georges Hall , NSW , 2198

Lot/DP Lot 17/E DP 8855

NCC class* 1a

Floor/all Floors G of 2 floors

Type New Home

Plans

Main plan Revision A

Prepared by Monument Design Partnership

Construction and environment

Assessed floor area [m2]*	Exposure type
Conditioned* 237.9	Suburban
Unconditioned* 4.8	NatHERS climate zone
Total 279.2	56 Mascot (Sydney Airport)
Garage 36.5	



Accredited assessor

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Accreditation No. DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

NCC Requirements

NCC provisions Volume Two

State/Territory variation Yes

National Construction Code (NCC) requirements

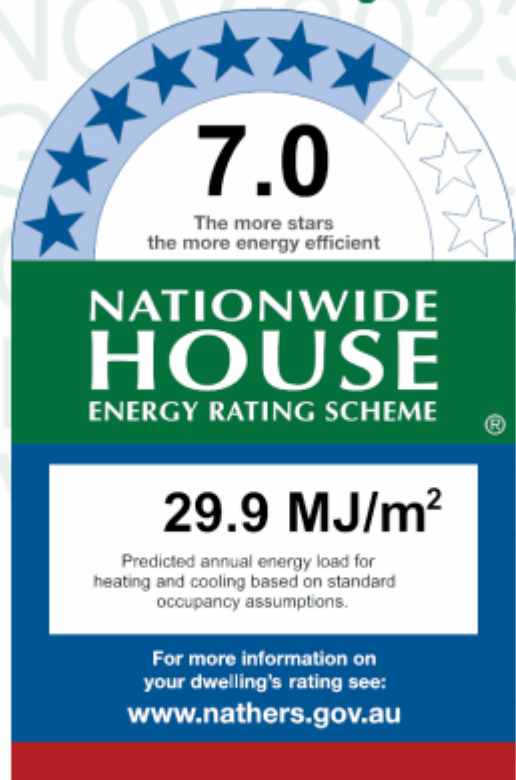
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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

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

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

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

Thermal performance Star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.7	14.2
Load limits	N/A	N/A

Features determining load limits

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

Whole of Home performance rating

No Whole of Home
performance rating
generated for this
certificate.

Verification

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



About the ratings

Thermal performance rating

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

Whole of Home performance rating

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

Heating & Cooling Load Limits

Additional information

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

Setting Options:

Floor Type:

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

NCC Climate Zone 1 or 2:

Yes
No
NA – Not Applicable

Outdoor Living Area:

Yes
No
NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes
No
NA – Not Applicable



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use

No Whole of Home performance assessment conducted for this certificate

Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost

No Whole of Home performance assessment conducted for this certificate

Certificate check

The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.

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



Certificate check

Continued

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

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?

☐ ☐ ☐ ☐

Insulation installation method

Has the insulation been installed according to the NCC requirements?

☐ ☐ ☐

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?

☐ ☐ ☐ ☐

Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?

☐ ☐ ☐ ☐ ☐

Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or 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.

Additional notes

Room schedule

Room	Zone Type	Area [m ²]
Garage	Garage	36.48
Guest WIR	Nighttime	4.13
Guest Bedroom	Bedroom	14.49
GF WC	Unconditioned	4.8
Corridor	Daytime	5.19
Kitchen/Dining	Kitchen/Living	56.92
Pantry	Daytime	4.83
Laundry	Daytime	5.01
Living	Living	41.36
FF Hallway	Daytime	19.86
FF Linen	Daytime	3.82
Bedroom 2	Bedroom	15.66
Bedroom 3	Bedroom	15.42
Bedroom 4	Bedroom	15.06
Master Bedroom	Bedroom	22.69
MB WIR	Nighttime	5.24
Master Ens	Nighttime	8.26

Window and glazed door type and performance

Default windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
PVC-003-01 W	uPVC A DG Air Fill Clear-Clear	3.0	0.48	0.46	0.50
PVC-004-01 W	uPVC B DG Air Fill Clear-Clear	3.0	0.56	0.53	0.59

Custom windows*

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



Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Guest Bedroom	PVC-004-01 W	W06	900	3320	Louvre	90	S	No
Kitchen/Dining	PVC-004-01 W	W04	2600	1500	Louvre	90	E	No
Kitchen/Dining	PVC-004-01 W	SD03	2700	6000	Sliding	65	E	No
Kitchen/Dining	PVC-004-01 W	W05	2600	2120	Louvre	90	E	No
Living	PVC-004-01 W	W01	2900	5770	Louvre	90	W	No
Living	PVC-004-01 W	W02	900	6070	Louvre	90	E	No
Living	PVC-004-01 W	W03	2600	2550	Louvre	90	S	No
FF Hallway	PVC-003-01 W	W07	900	1200	Awning	90	N	Yes
Bedroom 2	PVC-004-01 W	W08	900	3000	Sliding	45	S	No
Bedroom 3	PVC-004-01 W	W9	900	3000	Sliding	45	S	No
Bedroom 4	PVC-004-01 W	W08	900	3000	Sliding	45	N	Yes
Master Bedroom	PVC-004-01 W	W08	900	3000	Sliding	45	E	No
MB WIR	PVC-003-01 W	W09	900	800	Awning	90	E	Yes
Master Ens	PVC-003-01 W	W07	900	1200	Awning	90	E	No

Roof window* *type and performance value*

Default roof windows*

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

Custom roof windows*

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

Roof window* *schedule*

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2900	5200	90	N
Kitchen/Dining	2700	1500	90	W

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Timber Stud Frame Brick Veneer	0		Foil Anti-glare one side and Reflective other of the Bulk Insulation R2.7	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage	EW-1	2700	6100	W	0	No
Garage	EW-1	3000	6095	N	1500	No
Garage	EW-1	2700	800	S	0	No
Guest WIR	EW-1	2700	1290	W	0	No
Guest Bedroom	EW-1	2700	3395	S	100	Yes
Guest Bedroom	EW-1	2700	4395	W	0	No
GF WC	EW-1	2700	1590	S	100	No
Kitchen/Dining	EW-1	2700	3595	N	1500	No
Kitchen/Dining	EW-1	2700	2395	W	8900	No
Kitchen/Dining	EW-1	2700	12390	E	4200	No
Pantry	EW-1	2700	2790	S	100	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Laundry	EW-1	2700	1795	E	0	No
Laundry	EW-1	2700	2895	S	100	No
Living	EW-1	3000	6095	W	1000	Yes
Living	EW-1	2700	6800	N	0	No
Living	EW-1	2700	6100	E	600	Yes
Living	EW-1	2700	5000	S	9400.0147754021	No
FF Hallway	EW-1	2700	4095	N	0	No
FF Hallway	EW-1	2700	2395	N	400	No
FF Hallway	EW-1	2700	1290	S	100	No
FF Linen	EW-1	2700	1590	S	100	No
Bedroom 2	EW-1	2700	4190	S	100	No
Bedroom 3	EW-1	2700	3695	S	100	No
Bedroom 3	EW-1	2700	4295	W	0	No
Bedroom 4	EW-1	2700	4195	W	0	No
Bedroom 4	EW-1	2700	3695	N	0	No
Master Bedroom	EW-1	2700	4695	N	400	No
Master Bedroom	EW-1	2700	4595	E	0	No
MB WIR	EW-1	2700	1790	E	0	No
Master Ens	EW-1	2700	2095	E	0	No
Master Ens	EW-1	2700	4095	S	100	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	14.31	Bulk Insulation, No Air Gap R2.7
IW-002	Timber Stud Frame, Direct Fix Plasterboard	185.12	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Waffle pod slab 225 mm 100mm	36.48	None	Waffle Pod 225mm	Bare
Guest WIR	Waffle pod slab 225 mm 100mm	4.13	None	Waffle Pod 225mm	Ceramic Tiles 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Guest Bedroom	Waffle pod slab 225 mm 100mm	14.49	None	Waffle Pod 225mm	Ceramic Tiles 8mm
GF WC	Waffle pod slab 225 mm 100mm	4.80	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Corridor	Waffle pod slab 225 mm 100mm	5.19	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Kitchen/Dining	Waffle pod slab 225 mm 100mm	56.92	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Pantry	Waffle pod slab 225 mm 100mm	4.83	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.01	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Living	Waffle pod slab 225 mm 100mm	41.36	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hallway / Garage	Timber Framed Timber Above Plasterboard 19mm	-10.44		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
FF Hallway / Corridor	Timber Framed Timber Above Plasterboard 19mm	-16.72		No Insulation	Carpet+Rubber Underlay 18mm
FF Hallway / Kitchen/Dining	Timber Framed Timber Above Plasterboard 19mm	4.35		No Insulation	Carpet+Rubber Underlay 18mm
FF Hallway	Suspended Floor Timber Frame 19mm	6.64	Very Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
FF Linen / Garage	Timber Framed Timber Above Plasterboard 19mm	2.52		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
FF Linen / Corridor	Timber Framed Timber Above Plasterboard 19mm	1.69		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2 / Kitchen/Dining	Timber Framed Timber Above Plasterboard 19mm	15.27		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3 / Garage	Timber Framed Timber Above Plasterboard 19mm	12.10		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bedroom 3 / Guest WIR	Timber Framed Timber Above Plasterboard 19mm	2.72		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4 / Garage	Timber Framed Timber Above Plasterboard 19mm	9.52		Bulk Insulation R3	Carpet+Rubber Underlay 18mm
Bedroom 4	Suspended Floor Timber Frame 19mm	5.14	Very Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
Master Bedroom / Kitchen/Dining	Timber Framed Timber Above Plasterboard 19mm	2.55		No Insulation	Carpet+Rubber Underlay 18mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Master Bedroom	Suspended Floor Timber Frame 19mm	20.40	Very Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
MB WIR	Suspended Floor Timber Frame 19mm	5.24	Very Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
Master Ens	Suspended Floor Timber Frame 19mm	8.26	Very Open	Bulk Insulation in Contact with Floor R3	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Plasterboard on Timber	Bulk Insulation R3	
Garage	Timber Framed Timber Above Plasterboard	Bulk Insulation R3	
Guest WIR	Plasterboard on Timber	Bulk Insulation R5	
Guest WIR	Timber Framed Timber Above Plasterboard	No Insulation	
Guest Bedroom	Plasterboard on Timber	Bulk Insulation R5	
GF WC	Plasterboard on Timber	Bulk Insulation R5	
Corridor	Plasterboard on Timber	Bulk Insulation R5	
Corridor	Timber Framed Timber Above Plasterboard	No Insulation	
Kitchen/Dining	Plasterboard on Timber	Bulk Insulation R5	
Kitchen/Dining	Timber Framed Timber Above Plasterboard	No Insulation	
Pantry	Plasterboard on Timber	Bulk Insulation R5	
Laundry	Plasterboard on Timber	Bulk Insulation R5	
Living	Plasterboard on Timber	Bulk Insulation R5	
FF Hallway	Plasterboard on Timber	Bulk Insulation R5	
FF Linen	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 4	Plasterboard on Timber	Bulk Insulation R5	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Master Bedroom	Plasterboard on Timber	Bulk Insulation R5	
MB WIR	Plasterboard on Timber	Bulk Insulation R5	
Master Ens	Plasterboard on Timber	Bulk Insulation R5	

Ceiling penetrations*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Guest WIR	2	Downlights - LED	150	Sealed
Guest Bedroom	6	Downlights - LED	150	Sealed
GF WC	2	Downlights - LED	150	Sealed
GF WC	1	Exhaust Fans	300	Sealed
Corridor	3	Downlights - LED	150	Sealed
Kitchen/Dining	18	Downlights - LED	150	Sealed
Kitchen/Dining	1	Exhaust Fans	300	Sealed
Pantry	2	Downlights - LED	150	Sealed
Pantry	1	Exhaust Fans	300	Sealed
Laundry	2	Downlights - LED	150	Sealed
Laundry	1	Exhaust Fans	300	Sealed
Living	12	Downlights - LED	150	Sealed
FF Hallway	12	Downlights - LED	150	Sealed
FF Linen	2	Downlights - LED	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bedroom 4	4	Downlights - LED	150	Sealed
Master Bedroom	8	Downlights - LED	150	Sealed
MB WIR	2	Downlights - LED	150	Sealed
Master Ens	4	Downlights - LED	150	Sealed
Master Ens	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Guest Bedroom	1	1400
Kitchen/Dining	1	1400



Location	Quantity	Diameter [mm]
Living	1	1400
Bedroom 2	1	1400
Bedroom 3	1	1400
Bedroom 4	1	1400
Master Bedroom	1	1400

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R2	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.

Cooling system

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

Heating system

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

Hot water system

Appliance/ system type	Fuel type	Hot Water	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
		CER Zone			lower limit	upper limit	
No Data Available							



Pool/spa equipment

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

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

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

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

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your home's rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the operability 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 sheathing or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.