Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. F411GVBA2C

Generated on 17 Jul 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address	16 Melwood Avenue, Forestville, NSW, 2087
Lot/DP	29/DP366454
NCC Class*	Class 1a
Floor/all Floors Type	New Home

Plans

Main plan	-
Prepared by	Corona Projects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	213.6	suburban
Unconditioned*	48.7	**NatHERS climate zone**
Total	262.3	56 Mascot AMO
Garage	33	

Accredited assessor

Name	Akhtar Vaseem
Business name	Positive eco
Email	avaseem@positiveeco.com.au
Phone	0431418787
Accreditation No.	101146
Assessor Accrediting Organisation	ABSA
Declaration of interest	No

NCC Requirements

NCC provisions	Volume 2
State/Territory variation	Yes

National Construction Code (NCC) requirements

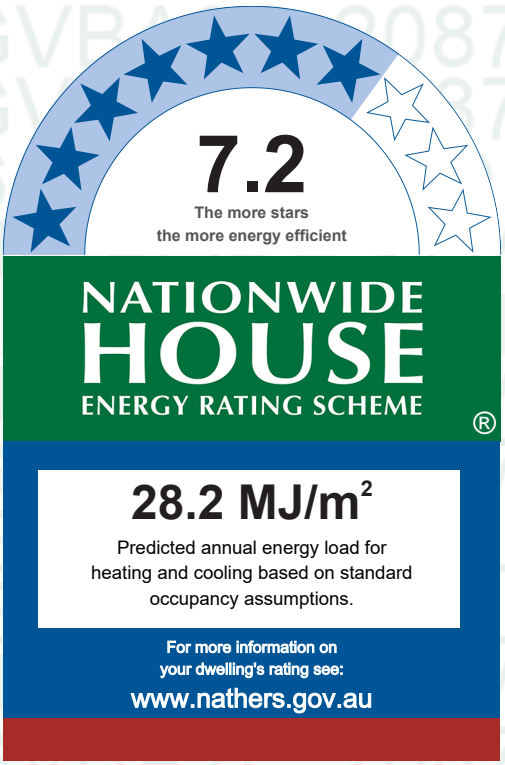
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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

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

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

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

Thermal performance star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	12.3	16
Load limits	N/A	N/A

Features determining load limits

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

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit https://www.fr5.com.au/QRCodeLanding?PublicId=F411GVBA2C When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

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

Whole of Home performance rating

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

Heating & Cooling Load Limits

Additional information

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

Setting options:

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

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

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

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

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

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

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

*Refer to glossary.

Certificate check

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

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

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

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Garage	garage	33
BATH	unconditioned	4.4
LAUNDRY	unconditioned	3.8
GUEST Bedroom 1	bedroom	12.2
PANTRY	dayTime	7.1
ENTRY HALLWAY STAIR GF	dayTime	26.5
Kitchen/Living /Dining	kitchen	58.1
M. Bedroom	bedroom	24.4
ENS	nightTime	6.8
WIR	nightTime	8
Bedroom 2	bedroom	26.9
Bedroom 3	bedroom	16.7
bath	unconditioned	7.5
hallway and stairs FF	dayTime	22
study/media	living	17.5

Window and glazed door *type and performance*

Default* windows

				Substitution tolerance ra	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC up
TIM-001-01 W	Timber A SG Clear	5.4	0.56	0.53	0.5

Custom* windows

				Substitution tolerance ra	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC up
BRD-063-17 A	SIG Fixed Lite (67mm) SG 4SP30	4.15	0.49	0.47	0.5
BRD-097-01 A	Signature Awning Window 100TB DG 638Lam-12Ar-6mmClr	3.02	0.48	0.46	0.5
BRD-102-08 A	Signature Sliding Window 100TB DG 4mmET/12Ar/4mmClr	2.7	0.45	0.43	0.4
BRD-086-36 A	Sig Fixed Window 100 External Glazed DG FGIOptEmaPrivacyWhiteTransProtekta_638_12Ar_4mm	2.7	0.4	0.38	0.4
BRD-141-31 A	Signature Sliding Stacking Door DG 4mmClr-10Ar-4mmOptitherm	2.73	0.53	0.5	0.5
BRD-035-62 A	SIG Sliding Door (100mm) DG 014_AGG PLUS WTrans lam 638_8_4	2.84	0.4	0.38	0.4

Window and glazed door *schedule*

*Refer to glossary.

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Garage	BRD-063-17 A	W05A	800	3800	fixed	0.0	N	No
BATH	BRD-097-01 A	W04A	1500	900	awning	90.0	N	No
LAUNDRY	TIM-001-01 W	D03A glazed prtion of laundry door	1100	820	sliding	45.0	W	No
GUEST Bedroom 1	BRD-102-08 A	W07A	2700	1800	sliding	30.0	S	No
PANTRY	BRD-086-36 A	W08A	750	1600	sliding	45.0	S	No
ENTRY HALLWAY STAIR GF	BRD-086-36 A	W03A	2400	3555	fixed	0.0	N	No
ENTRY HALLWAY STAIR GF	BRD-086-36 A	W14A	1550	1600	fixed	0.0	S	No
ENTRY HALLWAY STAIR GF	BRD-086-36 A	W06A	2100	3800	fixed	0.0	S	No
Kitchen/Living /Dining	BRD-141-31 A	D01A(stacker)	3000	5920	other	80.0	W	No
Kitchen/Living /Dining	BRD-086-36 A	W09A	750	3200	fixed	0.0	S	No
Kitchen/Living /Dining	BRD-035-62 A	D02A	2400	1880	sliding	45.0	E	No
Kitchen/Living /Dining	BRD-086-36 A	W01A	2100	1200	fixed	0.0	N	No
Kitchen/Living /Dining	BRD-086-36 A	W02A	2100	1200	fixed	0.0	N	No
M. Bedroom	BRD-086-36 A	W11A	2300	900	fixed	0.0	N	No
M. Bedroom	BRD-086-36 A	W12A	2300	900	fixed	0.0	N	No
M. Bedroom	BRD-035-62 A	D07A	2400	4200	sliding	66.0	E	No
ENS	BRD-102-08 A	W13A	800	1800	sliding	10.0	S	No
Bedroom 2	BRD-035-62 A	D06A	2400	4200	sliding	66.0	W	No
Bedroom 3	BRD-097-01 A	W19A	2300	900	awning	10.0	S	No
Bedroom 3	BRD-097-01 A	W18A	2300	900	awning	10.0	S	No
bath	BRD-097-01 A	W17A	2300	1400	awning	10.0	S	No
hallway and stairs FF	BRD-086-36 A	W10A	2700	2400	fixed	0.0	N	No
hallway and stairs FF	BRD-086-36 A	W14A	2400	1600	fixed	0.0	S	No
study/media	BRD-097-01 A	W16A	2300	900	awning	10.0	S	No
study/media	BRD-097-01 A	W15A	2300	900	awning	10.0	S	No

*Refer to glossary.

Roof window* *type and performance value*

Default* roof windows

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

Custom* roof windows

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

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-004a	DC: Double Clear	

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
ENS	GEN-04-004a	Element 5	500	0.5	N	None	No
bath	GEN-04-004a	Element 2	500	0.5	N	None	No
hallway and stairs FF	GEN-04-004a	Element 1	500	1.2	N	None	No
hallway and stairs FF	GEN-04-004a	Element 4	500	1.2	N	None	No
study/media	GEN-04-004a	Element 3	500	1.2	N	None	No

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2500	4810	100.0	E
LAUNDRY	1100	820	100.0	W
ENTRY HALLWAY STAIR GF	2400	1260	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	2024 - hebel Veneer R2.7 insulation(75mm hebel)	0.3	Light	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

*Refer to glossary.

2	2024 - drop edge beam	0.5	Medium	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage	1	3100	6046	N	0	Yes
Garage	2	100	2454	E	0	No
Garage	2	100	2891	E	0	No
Garage	2	100	4033	N	0	No
Garage	1	3000	2025	S	1764	Yes
Garage	1	3100	5445	E	958	No
BATH	1	3000	1802	N	0	Yes
LAUNDRY	1	3000	1552	N	0	Yes
LAUNDRY	1	3000	2454	W	0	Yes
GUEST Bedroom 1	1	3000	3602	S	0	No
GUEST Bedroom 1	1	3000	523	E	0	Yes
PANTRY	1	3000	2277	S	0	No
ENTRY HALLWAY STAIR GF	1	3000	1680	E	2982	Yes
ENTRY HALLWAY STAIR GF	1	3000	3939	N	0	Yes
ENTRY HALLWAY STAIR GF	1	3000	2324	S	0	Yes
ENTRY HALLWAY STAIR GF	1	3000	524	W	0	Yes
ENTRY HALLWAY STAIR GF	1	3000	5232	S	0	No
Kitchen/Living /Dining	1	3000	7242	W	3441	Yes
Kitchen/Living /Dining	1	3000	6834	S	0	No
Kitchen/Living /Dining	1	3000	2562	E	0	Yes
Kitchen/Living /Dining	1	3000	8952	N	0	Yes
M. Bedroom	1	2700	7260	N	301	No
M. Bedroom	1	2700	4844	E	950	Yes
ENS	1	2700	1796	S	344	No
ENS	1	2700	517	W	1000	Yes
WIR	1	2700	5360	S	301	No
WIR	1	2700	675	E	1025	Yes
Bedroom 2	1	2700	5546	W	1183	Yes
Bedroom 2	1	2700	3851	S	304	No
Bedroom 2	1	2700	7161	N	313	No
Bedroom 3	1	2700	4421	S	308	No

*Refer to glossary.

bath	1	2700	1991	S	320	No
hallway and stairs FF	1	2700	2262	N	341	No
hallway and stairs FF	1	2700	600	W	1000	Yes
hallway and stairs FF	1	2700	3948	N	917	Yes
hallway and stairs FF	1	2700	595	E	1004	Yes
hallway and stairs FF	1	2700	3969	N	318	No
hallway and stairs FF	1	2700	2215	S	836	Yes
study/media	1	2700	4532	S	310	No
study/media	1	2700	522	E	1000	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	2024 - PB INSUL PB (R2.7)	71.6	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)
2	FR5 - Internal Plasterboard Stud Wall	143.2	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	33	Enclosed	R0.0	none
BATH	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	4.4	Enclosed	R0.0	Tiles
LAUNDRY	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	3.8	Enclosed	R0.0	Tiles
GUEST Bedroom 1	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	12.2	Enclosed	R0.0	Tiles
PANTRY	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	7.1	Enclosed	R0.0	Tiles
ENTRY HALLWAY STAIR GF	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	26.5	Enclosed	R0.0	Tiles
Kitchen/Living /Dining	FR5 - 175mm waffle pod, 85mm concrete (R0.57)	58.1	Enclosed	R0.0	Tiles
M. Bedroom	2023 - Alpha panel 35mm+Timber Joists+R2.0	24	Enclosed	R2.0	Timber
M. Bedroom	2023 - Alpha panel 35mm+Timber Joists+R2.0	0.4	Elevated	R2.0	Timber
ENS	2023 - Alpha panel 35mm+Timber Joists+R2.0	6.8	Enclosed	R2.0	Tiles
WIR	2023 - Alpha panel 35mm+Timber Joists+R2.0	5.6	Enclosed	R2.0	Timber
WIR	2023 - Alpha panel 35mm+Timber Joists+R2.0	2.3	Elevated	R2.0	Timber
Bedroom 2	2023 - Alpha panel 35mm+Timber Joists+R2.0	15.7	Enclosed	R2.0	Timber

*Refer to glossary.

Bedroom 2	2023 - Alpha panel 35mm+Timber Joists+R2.0	11.2	Elevated	R2.0	Timber
Bedroom 3	2023 - Alpha panel 35mm+Timber Joists+R2.0	16.7	Enclosed	R2.0	Timber
bath	2023 - Alpha panel 35mm+Timber Joists+R2.0	7.5	Enclosed	R2.0	Tiles
hallway and stairs FF	2023 - Alpha panel 35mm+Timber Joists+R2.0	22	Enclosed	R2.0	Timber
study/media	2023 - Alpha panel 35mm+Timber Joists+R2.0	17.5	Enclosed	R2.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
Garage	Plasterboard	R6.5	Yes
BATH	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
BATH	Plasterboard	R6.5	Yes
LAUNDRY	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
LAUNDRY	Plasterboard	R6.5	Yes
GUEST Bedroom 1	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
PANTRY	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
ENTRY HALLWAY STAIR GF	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
Kitchen/Living /Dining	2023 - Alpha panel 35mm+Timber Joists+R2.0	R2.0	No
Kitchen/Living /Dining	Plasterboard	R6.5	Yes
M. Bedroom	Plasterboard	R6.5	Yes
ENS	Plasterboard	R6.5	Yes
WIR	Plasterboard	R6.5	Yes
WIR	Plasterboard	R6.5	Yes
Bedroom 2	Plasterboard	R6.5	Yes
Bedroom 2	Plasterboard	R6.5	Yes
Bedroom 3	Plasterboard	R6.5	Yes

*Refer to glossary.

bath	Plasterboard	R6.5	Yes
hallway and stairs FF	Plasterboard	R6.5	Yes
study/media	Plasterboard	R6.5	Yes

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
BATH	1	Exhaust Fans	180	180	Sealed
GUEST Bedroom 1	5	Downlights	0	0	Sealed
PANTRY	2	Downlights	0	0	Sealed
ENTRY HALLWAY STAIR GF	11	Downlights	0	0	Sealed
Kitchen/Living /Dining	23	Downlights	0	0	Sealed
Kitchen/Living /Dining	1	Exhaust Fans	180	180	Sealed
M. Bedroom	10	Downlights	0	0	Sealed
ENS	1	Exhaust Fans	180	180	Sealed
WIR	2	Downlights	0	0	Sealed
Bedroom 2	11	Downlights	0	0	Sealed
Bedroom 3	7	Downlights	0	0	Sealed
bath	1	Exhaust Fans	180	180	Sealed
hallway and stairs FF	9	Downlights	0	0	Sealed
study/media	7	Downlights	0	0	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
GUEST Bedroom 1	1	1400

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.8	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

*Refer to glossary.

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

Heating system

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

Hot water system

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

Pool/spa equipment

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

Onsite renewable energy *schedule*

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

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

Battery *schedule*

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

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

*Refer to glossary.

Explanatory Notes

About this report

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

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

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

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

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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

*Refer to glossary.

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

*Refer to glossary.