Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. 0009665761

Generated on 02 Aug 2024 using BERS Pro v5.2.2 (3.23)

Property

Address	5 Killara Avenue, PANANIA , NSW , 2213
Lot/DP	Lot 28 DP 17269
NCC class*	1a
Floor/all Floors	G of 2 floors
Type	New Home

Plans

Main plan	0028180
Prepared by	BO

Construction and environment

Assessed floor area [m2]*	
Conditioned*	218.9
Unconditioned*	21.9
Total	240.8
Garage	0.0

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	Ian Fry
Business name	Frys Energywise
Email	comply@frysenergywise.com.au
Phone	02 9899 2825
Accreditation No.	DMN/12/1441
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

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

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	14.6	13.5
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=VbNbMBKch .
When using either link, ensure you are visiting hstar.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 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

* 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 by whom each item should be checked. 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	☐	☐	☐	☐	☐

* 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

Where not noted on plans, default selections to floor coverings and external colours have been used in this assessment, as noted in the NatHERS Technical Notes. Alternative selections past this point can be made to floor coverings and external colours, without requiring an amended certificate.

* Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m^2]
DIN LIV KIT	Kitchen/Living	51.4
BUTLERS	Daytime	6.43
WIP	Daytime	2.16
LAUNDRY	Unconditioned	8.28
ENTRY GF HALL	Daytime	19.6
GUEST	Bedroom	11.89
GF POWDER	Unconditioned	3.99
GF LOUNGE	Living	11.35
STUDY	Daytime	13.78
BED 1 WIR	Nighttime	8.2
BED 1	Bedroom	16.34
ENSUITE	Nighttime	8.73
UF BATH	Unconditioned	9.61
UF WC	Daytime	1.54
BED 4	Bedroom	12.34
BED 3	Bedroom	11.48
BED 2	Bedroom	10.83
UF STORAGE	Daytime	1.54
GAMES UF HALL	Living	36.55

Window and glazed door *type and performance*

Default windows*

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

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
STG-007-011	Aluminium Sliding Window SG 4ET	4.6	0.62	0.59	0.65
STG-073-017	Aluminium Fixed Window SG 4ET	4.3	0.65	0.61	0.68

* Refer to glossary.

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
STG-004-010	Aluminium Sliding Door DG 4Clr/10/4Clr	4.1	0.60	0.57	0.63
STG-007-001	Aluminium Sliding Window SG 3Clr	6.3	0.73	0.69	0.77
STG-002-001	Aluminium Awning Window SG 3Clr	6.5	0.65	0.62	0.68
STG-002-011	Aluminium Awning Window SG 4ET	5.0	0.55	0.52	0.58

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
DIN LIV KIT	STG-007-011-001	Dining	1800	2400	Sliding	30	E	No
DIN LIV KIT	STG-073-017-001	Kitchen	600	2100	Fixed	00	S	No
DIN LIV KIT	STG-007-011-001	Living	1800	1800	Sliding	35	N	No
DIN LIV KIT	STG-004-010-001	Living SD	2100	3200	Sliding	64	E	No
DIN LIV KIT	STG-004-010-001	Dining SD	2100	1800	Sliding	45	N	No
BUTLERS	STG-073-017-001	Butlers	600	900	Fixed	00	S	No
LAUNDRY	STG-007-001-001	Laundry	1200	900	Sliding	45	S	No
GUEST	STG-007-011-001	Guest	1200	1800	Sliding	45	N	No
GF POWDER	STG-002-001-001	GF Powder	900	600	Awning	90	N	No
GF LOUNGE	STG-002-011-001	GF Lounge 1	1800	600	Awning	90	W	No
GF LOUNGE	STG-002-011-001	GF Lounge 2	1800	600	Awning	90	W	No
STUDY	STG-002-011-001	Study 1	1800	1200	Awning	90	W	No
STUDY	STG-002-011-001	Study 2	1800	1200	Awning	90	W	No
BED 1	STG-007-011-001	Bed 1	700	2400	Sliding	10	E	No
ENSUITE	STG-007-001-001	Ensuite 1	1200	600	Sliding	45	S	No
ENSUITE	STG-007-001-001	Ensuite 2	900	600	Sliding	45	S	No
UF BATH	STG-007-001-001	UF Bath	1200	800	Sliding	45	S	No
BED 4	STG-002-011-001	Bed 4 1	1200	900	Awning	10	W	No
BED 4	STG-002-011-001	Bed 4 2	1200	900	Awning	10	W	No
BED 3	STG-007-011-001	Bed 3	1200	1800	Sliding	10	N	No
BED 2	STG-007-011-001	Bed 2	1200	1800	Sliding	10	N	No

* Refer to glossary.

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
GAMES UF HALL	STG-004-010-001	Games SD	2100	3600	Sliding	45	W	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
ENTRY GF HALL	2040	820	90	W

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Steel Stud Frame Brick Veneer	0.50		Anti-glare foil with bulk no gap R2.7	No
EW-2	Fibro Steel Stud Frame Panel on Battens	0.50		Anti-glare foil with bulk no gap R2.7	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
DIN LIV KIT	EW-1	2590	4500	E	600	No
DIN LIV KIT	EW-1	2590	6995	S	100	No
DIN LIV KIT	EW-1	2590	4595	N	100	No
DIN LIV KIT	EW-1	2590	4300	E	3500	No
DIN LIV KIT	EW-1	2590	2900	N	4900	No
BUTLERS	EW-1	2590	3490	S	100	No
LAUNDRY	EW-1	2590	1990	S	100	No
ENTRY GF HALL	EW-1	2590	1590	W	2800	No
GUEST	EW-1	2590	3990	N	100	No
GF POWDER	EW-1	2590	1890	N	100	No
GF LOUNGE	EW-1	2590	1000	S	1600	No
GF LOUNGE	EW-1	2590	3200	W	1800	No
GF LOUNGE	EW-1	2590	3595	N	100	No
STUDY	EW-1	2590	3495	S	100	No
STUDY	EW-1	2590	3995	W	100	No
BED 1 WIR	EW-2	600	3095	E	0	No
BED 1 WIR	EW-2	1840	3095	E	800	No
BED 1 WIR	EW-1	2440	2695	N	600	No
BED 1	EW-2	600	3790	E	0	No
BED 1	EW-2	1840	3790	E	800	No
ENSUITE	EW-2	600	1895	E	0	No
ENSUITE	EW-2	1840	1895	E	800	No
ENSUITE	EW-1	2440	4695	S	600	No
UF BATH	EW-1	2440	4890	S	600	No

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
BED 4	EW-1	2440	3495	S	600	No
BED 4	EW-1	2440	3695	W	600	No
BED 3	EW-1	2440	3790	N	600	No
BED 2	EW-1	2440	3290	N	600	No
GAMES UF HALL	EW-1	2440	295	W	3400	No
GAMES UF HALL	EW-1	2440	1000	S	4600	No
GAMES UF HALL	EW-1	2440	4800	W	2400	No
GAMES UF HALL	EW-1	2440	4295	N	1000	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Steel Stud Frame, Direct Fix Plasterboard	235.52	No insulation

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
DIN LIV KIT	Waffle pod slab 225 mm 100mm	51.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
BUTLERS	Waffle pod slab 225 mm 100mm	6.43	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WIP	Waffle pod slab 225 mm 100mm	2.16	None	Waffle Pod 225mm	Ceramic Tiles 8mm
LAUNDRY	Waffle pod slab 225 mm 100mm	8.28	None	Waffle Pod 225mm	Ceramic Tiles 8mm
ENTRY GF HALL	Waffle pod slab 225 mm 100mm	19.60	None	Waffle Pod 225mm	20/80 Carpet 10mm/Ceramic
GUEST	Waffle pod slab 225 mm 100mm	11.89	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
GF POWDER	Waffle pod slab 225 mm 100mm	3.99	None	Waffle Pod 225mm	Ceramic Tiles 8mm
GF LOUNGE	Waffle pod slab 225 mm 100mm	11.35	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
STUDY	Waffle pod slab 225 mm 100mm	13.78	None	Waffle Pod 225mm	Ceramic Tiles 8mm
BED 1 WIR / DIN LIV KIT	Timber Framed Timber Above Plasterboard 19mm	8.20		No Insulation	Carpet+Rubber Underlay 18mm
BED 1 / DIN LIV KIT	Timber Framed Timber Above Plasterboard 19mm	15.80		No Insulation	Carpet+Rubber Underlay 18mm

* Refer to glossary.

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
BED 1 / WIP	Timber Framed Timber Above Plasterboard 19mm	0.16		No Insulation	Carpet+Rubber Underlay 18mm
ENSUITE / DIN LIV KIT	Timber Framed Timber Above Plasterboard 19mm	7.59		No Insulation	Ceramic Tiles 8mm
ENSUITE / BUTLERS	Timber Framed Timber Above Plasterboard 19mm	0.94		No Insulation	Ceramic Tiles 8mm
UF BATH / BUTLERS	Timber Framed Timber Above Plasterboard 19mm	5.21		No Insulation	Ceramic Tiles 8mm
UF BATH / LAUNDRY	Timber Framed Timber Above Plasterboard 19mm	4.10		No Insulation	Ceramic Tiles 8mm
UF WC / LAUNDRY	Timber Framed Timber Above Plasterboard 19mm	1.54		No Insulation	Ceramic Tiles 8mm
BED 4 / STUDY	Timber Framed Timber Above Plasterboard 19mm	12.34		No Insulation	Carpet+Rubber Underlay 18mm
BED 3 / DIN LIV KIT	Timber Framed Timber Above Plasterboard 19mm	5.59		No Insulation	Carpet+Rubber Underlay 18mm
BED 3 / GUEST	Timber Framed Timber Above Plasterboard 19mm	5.59		No Insulation	Carpet+Rubber Underlay 18mm
BED 2 / ENTRY GF HALL	Timber Framed Timber Above Plasterboard 19mm	2.20		No Insulation	Carpet+Rubber Underlay 18mm
BED 2 / GUEST	Timber Framed Timber Above Plasterboard 19mm	5.68		No Insulation	Carpet+Rubber Underlay 18mm
BED 2 / GF POWDER	Timber Framed Timber Above Plasterboard 19mm	2.33		No Insulation	Carpet+Rubber Underlay 18mm
UF STORAGE / WIP	Timber Framed Timber Above Plasterboard 19mm	1.54		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL / LAUNDRY	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL / ENTRY GF HALL	Timber Framed Timber Above Plasterboard 19mm	11.88		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL / GF POWDER	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL / GF LOUNGE	Timber Framed Timber Above Plasterboard 19mm	5.54		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL / STUDY	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
GAMES UF HALL	Suspended Floor Timber Frame 19mm	0.86	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
DIN LIV KIT	Plasterboard on Timber	Bulk Insulation R7	
DIN LIV KIT	Plasterboard on Timber	Bulk Insulation R2.5	

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
DIN LIV KIT	Timber Framed Timber Above Plasterboard	No Insulation	
BUTLERS	Timber Framed Timber Above Plasterboard	No Insulation	
WIP	Timber Framed Timber Above Plasterboard	No Insulation	
LAUNDRY	Timber Framed Timber Above Plasterboard	No Insulation	
ENTRY GF HALL	Timber Framed Timber Above Plasterboard	No Insulation	
GUEST	Timber Framed Timber Above Plasterboard	No Insulation	
GF POWDER	Timber Framed Timber Above Plasterboard	No Insulation	
GF LOUNGE	Timber Framed Timber Above Plasterboard	No Insulation	
STUDY	Timber Framed Timber Above Plasterboard	No Insulation	
BED 1 WIR	Plasterboard on Timber	Bulk Insulation R7	
BED 1 WIR	Plasterboard on Timber	Bulk Insulation R2.5	
BED 1	Plasterboard on Timber	Bulk Insulation R7	
BED 1	Plasterboard on Timber	Bulk Insulation R2.5	
ENSUITE	Plasterboard on Timber	Bulk Insulation R7	
ENSUITE	Plasterboard on Timber	Bulk Insulation R2.5	
UF BATH	Plasterboard on Timber	Bulk Insulation R7	
UF BATH	Plasterboard on Timber	Bulk Insulation R2.5	
UF WC	Plasterboard on Timber	Bulk Insulation R7	
BED 4	Plasterboard on Timber	Bulk Insulation R7	
BED 4	Plasterboard on Timber	Bulk Insulation R2.5	
BED 3	Plasterboard on Timber	Bulk Insulation R7	
BED 3	Plasterboard on Timber	Bulk Insulation R2.5	
BED 2	Plasterboard on Timber	Bulk Insulation R7	
BED 2	Plasterboard on Timber	Bulk Insulation R2.5	
UF STORAGE	Plasterboard on Timber	Bulk Insulation R7	
GAMES UF HALL	Plasterboard on Timber	Bulk Insulation R7	
GAMES UF HALL	Plasterboard on Timber	Bulk Insulation R2.5	
GAMES UF HALL	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
DIN LIV KIT	1	Exhaust Fans	300	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
GF POWDER	1	Exhaust Fans	300	Sealed
ENSUITE	1	Exhaust Fans	300	Sealed
UF BATH	1	Exhaust Fans	300	Sealed
UF WC	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
DIN LIV KIT	1	1200
GF LOUNGE	1	1200
GAMES UF HALL	1	1200

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Roof Tiles Timber Frame	Foil, Gap Above, Reflective Side Down, Anti-glare Up	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]
External Wall		600	0.75	No
Internal Wall		600	0.75	No

Appliance *schedule*

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

Note: A flat assumption of 5W/m^2 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 CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					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 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)