

Nationwide House Energy Rating Scheme[®]

NatHERS[®] Certificate No. 0009394719

Generated on 19 Apr 2024 using BERS Pro v5.1.7 (3.22)

Property

Address Birrong Avenue,
Belrose , NSW , 2085

Lot/DP Lot 79 DP 232295

NCC class* 1a

Floor/all Floors G of 2 floors

Type New Home

Plans

Main plan 29916934

Prepared by Clarendon Homes - CY

Construction and environment

Assessed floor area [m2]*		Exposure type
Conditioned*	281.8	Suburban
Unconditioned*	33.7	
Total	353.0	NatHERS climate zone
Garage	37.6	56 Mascot (Sydney Airport)



Accredited assessor

Name Daniel.Warda

Business name Energi Thermal Assessors Pty Ltd

Email daniel@energiassessments.com.au

Phone 0452504125

Accreditation No. 101182

Assessor Accrediting Organisation
ABSA

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



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME[®]

29.8 MJ/m²

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

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

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	18.2	11.7
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=yEUKGQKf. 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"/>

* Refer to glossary.



Certificate check

Continued

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

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

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
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Other NCC requirements

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

Additional notes

Rev D

Window IDs

* Refer to glossary.



Fixed 4MM ENERGYTECH SP 10 CLEAR / 12MM ARGON / 4MM CLEAR - ALS-102-24 A

Sliding 4MM ENERGYTECH SP 10 CLEAR / 12MM ARGON / 4MM CLEAR - ALS-050-21 A

Fixed 4MM CLEAR - ALS-103-14 A

Room schedule

Room	Zone Type	Area [m ²]
Kitchen/Family/	Kitchen/Living	65.64
Home Theatre	Living	20.59
PDR2	Unconditioned	3.11
Laundry	Unconditioned	12.14
Entry	Daytime	29.81
Guest	Bedroom	16.57
PDR1	Unconditioned	5.69
Garage	Garage	37.55
Leisure	Living	33.09
Stairs/Hall	Daytime	28.56
Bath	Unconditioned	10.07
WC	Unconditioned	2.67
Bedroom 2/WIR	Bedroom	20.56
Bedroom 3/WIR	Bedroom	15.99
Bedroom 4/WIR	Bedroom	17.66
Bedroom 1/WIRs	Bedroom	36.02
WC1	Nighttime	1.83
Ensuite	Nighttime	10.75

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
ALS-050-21 A	50mm Carinya Classic Sliding Window DG FGIOptEma_4mm_10Ar_4mm	3.3	0.47	0.45	0.49
ALS-102-24 A	Carinya Plus 65mm Fixed Window DG 010_AGG PLUS Clr 4_12_4	2.3	0.54	0.51	0.57
ALS-103-14 A	Carinya Plus 65mm Fixed Window SG 4mmClr	6.1	0.76	0.72	0.80
WID-001-01 A	AI Residential Awning Window SG 3mm Clear	6.5	0.63	0.60	0.66
WID-006-01 A	AI Residential Sliding Window SG 3mm Clear	6.4	0.76	0.72	0.80
WID-013-02 A	Aluminium Awning Window DG 4/12/4ET	3.4	0.54	0.51	0.57
WID-027-01 A	BSDI Sliding Door DG 4CS_12Ar_4mmClr	3.1	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*
Kitchen/Family/	WID-027-01 A	W2	2600	3600	Sliding	60	NW	No
Kitchen/Family/	WID-027-01 A	W3	2600	3600	Sliding	60	NW	No
Kitchen/Family/	ALS-102-24 A	W4	715	3010	Fixed	00	NE	No
Home Theatre	ALS-050-21 A	W5	1200	1800	Sliding	45	SW	No
Laundry	WID-006-01 A	n/a	600	600	Sliding	45	NE	No
Guest	WID-013-02 A	W6	2000	2600	Awning	60	SE	No
PDR1	ALS-103-14 A	n/a	300	1200	Fixed	00	SW	No
Leisure	WID-013-02 A	W7	1200	2600	Awning	60	SE	No
Leisure	ALS-050-21 A	W14	600	2600	Sliding	45	SW	No
Bath	WID-006-01 A	n/a	1200	1800	Sliding	45	SW	No
WC	WID-001-01 A	n/a	1000	700	Awning	90	SW	No
Bedroom 2/WIR	ALS-050-21 A	W13	1200	1800	Sliding	45	NW	No
Bedroom 3/WIR	ALS-050-21 A	W12	1000	2400	Sliding	45	NW	No
Bedroom 4/WIR	ALS-050-21 A	W11	1200	1800	Sliding	45	NW	No
Bedroom 1/WIRs	WID-013-02 A	W8	1200	800	Awning	90	SE	No
Bedroom 1/WIRs	WID-013-02 A	W9	1200	2100	Awning	45	SE	No
Bedroom 1/WIRs	WID-013-02 A	W10	1200	800	Awning	90	SE	No

* Refer to glossary.



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
WC1	WID-006-01 A	n/a	1000	800	Sliding	45	NE	No
Ensuite	WID-006-01 A	W1	1200	1800	Sliding	45	NE	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
PDR2	2340	820	90	NW
Laundry	2340	820	90	NE
Entry	2457	1290	90	SE
Garage	2400	4810	90	SE

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	AAC Steel Stud Frame Panel Direct Fix	0.496489411764706		Anti-glare foil with bulk no gap R2.7	No
EW-2	AAC Steel Stud Frame Panel Direct Fix	0.5		No insulation	No
EW-3	Fibro Steel Stud Frame Panel Direct Fix	0.5		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]
Kitchen/Family/	EW-1	3264	10700	NW	4400	No
Kitchen/Family/	EW-1	3264	6700	NE	100	No
Kitchen/Family/	EW-1	3264	5495	SW	100	No
Home Theatre	EW-1	2750	5290	SW	100	No
PDR2	EW-1	3264	1595	NE	100	No
PDR2	EW-1	3264	1995	NW	100	No
Laundry	EW-1	3264	2390	NE	100	No
Entry	EW-1	2750	1790	SE	1300	No
Guest	EW-1	2750	195	SE	1300	No
Guest	EW-1	2750	2300	NE	8900	No
Guest	EW-1	2750	3900	SE	100	No
Guest	EW-1	2750	3895	SW	100	No
PDR1	EW-1	2750	2690	SW	100	No
Garage	EW-2	2825	5595	NE	100	No
Garage	EW-2	2825	6800	SE	100	No
Garage	EW-2	2825	1200	SW	6000	No
Leisure	EW-1	850	395	SE	0	No
Leisure	EW-3	1750	395	SE	1500	No
Leisure	EW-1	850	1100	NE	0	No
Leisure	EW-3	1750	1100	NE	7400	No
Leisure	EW-1	850	3900	SE	0	No
Leisure	EW-3	1750	3900	SE	400	No
Leisure	EW-1	2600	7195	SW	600	No

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bath	EW-1	2600	3390	SW	600	No
WC	EW-1	2600	1690	SW	600	No
Bedroom 2/WIR	EW-1	2600	5095	SW	600	No
Bedroom 2/WIR	EW-3	2600	4095	NW	600	No
Bedroom 3/WIR	EW-3	2600	3290	NW	600	No
Bedroom 4/WIR	EW-3	2600	3295	NW	600	No
Bedroom 4/WIR	EW-1	850	5595	NE	0	No
Bedroom 4/WIR	EW-3	1750	5595	NE	600	No
Bedroom 1/WIRs	EW-3	2600	5995	NE	600	No
Bedroom 1/WIRs	EW-1	850	6395	SE	0	No
Bedroom 1/WIRs	EW-3	1750	6395	SE	600	No
WC1	EW-3	2600	1090	NE	600	No
Ensuite	EW-1	850	995	NE	0	No
Ensuite	EW-3	1750	995	NE	600	No
Ensuite	EW-3	2600	2595	NE	600	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Steel Stud Frame, Direct Fix Plasterboard	100.51	Bulk Insulation, No Air Gap R2
IW-002	Steel Stud Frame, Direct Fix Plasterboard	180.76	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Family/	Waffle pod slab 300 mm 100mm	65.64	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
Home Theatre	Waffle pod slab 300 mm 100mm	20.59	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
PDR2	Waffle pod slab 300 mm 100mm	3.11	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 300 mm 100mm	12.14	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Entry	Waffle pod slab 300 mm 100mm	29.81	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Guest	Waffle pod slab 300 mm 100mm	16.57	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
PDR1	Waffle pod slab 300 mm 100mm	5.69	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	37.55	None	Waffle Pod 225mm	Bare
Leisure / Home Theatre	AAC Steel Framed Above Plasterboard 75mm	2.15		No Insulation	Carpet+Rubber Underlay 18mm
Leisure / Entry	AAC Steel Framed Above Plasterboard 75mm	7.48		No Insulation	Carpet+Rubber Underlay 18mm
Leisure / Guest	AAC Steel Framed Above Plasterboard 75mm	16.68		No Insulation	Carpet+Rubber Underlay 18mm
Leisure / PDR1	AAC Steel Framed Above Plasterboard 75mm	5.78		No Insulation	Carpet+Rubber Underlay 18mm
Leisure	Suspended AAC (75mm) Steel Frame 75mm	0.54	Totally Open	Bulk Insulation, Gap to Floor R5	Carpet+Rubber Underlay 18mm
Stairs/Hall / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Stairs/Hall / Home Theatre	AAC Steel Framed Above Plasterboard 75mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Stairs/Hall / Entry	AAC Steel Framed Above Plasterboard 75mm	3.55		No Insulation	Carpet+Rubber Underlay 18mm
Bath / Home Theatre	AAC Steel Framed Above Plasterboard 75mm	10.07		No Insulation	Ceramic Tiles 8mm
WC / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	0.64		No Insulation	Ceramic Tiles 8mm
WC / Home Theatre	AAC Steel Framed Above Plasterboard 75mm	2.03		No Insulation	Ceramic Tiles 8mm
Bedroom 2/WIR / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	20.57		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/WIR / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	15.99		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/WIR / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	17.66		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/WIRs / Laundry	AAC Steel Framed Above Plasterboard 75mm	2.93		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/WIRs / Entry	AAC Steel Framed Above Plasterboard 75mm	4.17		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/WIRs / Garage	AAC Steel Framed Above Plasterboard 75mm	26.67		Bulk Insulation R5	Carpet+Rubber Underlay 18mm
Bedroom 1/WIRs	Suspended AAC (75mm) Steel Frame 75mm	1.81	Totally Open	Bulk Insulation, Gap to Floor R5	Carpet+Rubber Underlay 18mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
WC1 / Laundry	AAC Steel Framed Above Plasterboard 75mm	1.83		No Insulation	Ceramic Tiles 8mm
Ensuite / Kitchen/Family/	AAC Steel Framed Above Plasterboard 75mm	7.77		No Insulation	Ceramic Tiles 8mm
Ensuite / Laundry	AAC Steel Framed Above Plasterboard 75mm	2.86		No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Family/	AAC Steel Framed Above Plasterboard	No Insulation	
Home Theatre	AAC Steel Framed Above Plasterboard	No Insulation	
PDR2	Plasterboard on Steel	Bulk Insulation R6	
Laundry	Plasterboard on Steel	Bulk Insulation R6	
Laundry	AAC Steel Framed Above Plasterboard	No Insulation	
Entry	AAC Steel Framed Above Plasterboard	No Insulation	
Guest	AAC Steel Framed Above Plasterboard	No Insulation	
PDR1	AAC Steel Framed Above Plasterboard	No Insulation	
Garage	Plasterboard on Steel	No insulation	
Garage	AAC Steel Framed Above Plasterboard	Bulk Insulation R5	
Leisure	Plasterboard on Steel	Bulk Insulation R6	
Stairs/Hall	Plasterboard on Steel	Bulk Insulation R6	
Bath	Plasterboard on Steel	Bulk Insulation R6	
WC	Plasterboard on Steel	Bulk Insulation R6	
Bedroom 2/WIR	Plasterboard on Steel	Bulk Insulation R6	
Bedroom 3/WIR	Plasterboard on Steel	Bulk Insulation R6	
Bedroom 4/WIR	Plasterboard on Steel	Bulk Insulation R6	
Bedroom 1/WIRs	Plasterboard on Steel	Bulk Insulation R6	
WC1	Plasterboard on Steel	Bulk Insulation R6	
Ensuite	Plasterboard on Steel	Bulk Insulation R6	

Ceiling penetrations*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Family/	16	Downlights - LED	150	Sealed



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Family/	1	Exhaust Fans	300	Sealed
Home Theatre	4	Downlights - LED	150	Sealed
PDR2	1	Exhaust Fans	300	Sealed
Entry	8	Downlights - LED	150	Sealed
Guest	4	Downlights - LED	150	Sealed
PDR1	1	Exhaust Fans	300	Sealed
Leisure	8	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 2/WIR	1	1200
Bedroom 3/WIR	1	1200
Bedroom 4/WIR	1	1200
Bedroom 1/WIRs	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	0.5	Medium
Corrugated Iron Timber Frame	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.496489411764706	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
Ceiling		900	0.75	No
Internal Wall		600	0.75	No
External Wall		600	0.75	R0.3
Floor		450	1.5	No

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 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	

* 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 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 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)

* Refer to glossary.