Nationwide House Energy Rating Scheme®
NatHERS® Certificate No. 0011752821

Generated on 27 Feb 2025 using BERS Pro v5.2.4 (3.23)

Property

Address	11 Macquarie Road, Earlwood , NSW , 2206
Lot/DP	Lot 5 DP 20663
NCC class*	1a
Floor/all Floors	G of 2 floors
Type	New Home

Plans

Main plan	DA Rev A 24-07
Prepared by	KA DESIGN STUDIO PTY LTD

Construction and environment

Assessed floor area [m2]*	
Conditioned*	207.8
Unconditioned*	27.9
Total	274.0
Garage	38.4

Exposure type
Suburban

NatHERS climate zone
56 Mascot (Sydney Airport)

Accredited assessor

Name	James Cross
Business name	Northern Aspect Energy Consultants
Email	James@northernaspectenergy.com.au
Phone	0499922755
Accreditation No.	61671
Assessor Accrediting Organisation	ABSA
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	18.1	8.4
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 www.hstar.com.au/QR/Generate?p=UouUgHLtF . When using either link, ensure you are visiting www.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

Northern Aspect Energy Consultants Job Number NAEC 4225 Rev 0

Unless noted below NatHERS technical note and Basix TCP apply relevant to the date on the NatHERS certificate

* Refer to glossary.

Glazing compliance based on generic software values and compliance achieved by matching the U and SHGC values only and
no requirement to match the actual glass or frame description.
Fixed, Sliding and Double Hung glazing as U 3.5 SHGC 0.64Awning and hinged as U 3.5 SHGC 0.47
Aircell or similar to all house external cavity brick walls and internal dividing walls between Garage and House
No insulation to external Garage walls
Concrete slab on ground, carpet to Guest Bed, tiles to all remaining
Suspended concrete slab with Timber to landing, tiles to wet area and all remaining as carpet
External concrete ceilings to ground floor, no insulation
No insulation to internal ceilings
R4.0 bulk to all external upper floor ceilings
Concrete roof to upper level
Sealed exhaust fans to wet areas
No downlights so the must all be ICU rated for insulation cover or this certificate is no longr valid
Basix Heating Maximum 25 megajoules
Basix Cooling Maximum 18 megajoules
Basix Total Combined Maximum 30 megajoules

Room *schedule*

Room	Zone Type	Area [m^2]
Garage	Garage	38.4
Guest	Bedroom	21.5
Laundry	Unconditioned	6.73
Kitchen/Living	Kitchen/Living	64.49
Lift	Daytime	3.32
Bed01	Bedroom	20.87
Bath	Unconditioned	5.8
Bed 02	Bedroom	15.16
Ens	Nighttime	13.38
Master	Bedroom	38.28
Hallway	Unconditioned	44.29
entry	Daytime	30.77

Room	Zone Type	Area [m^2]
lift upper	Unconditioned	3.42

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
ATB-005-01 B	Al Thermally Broken A DG Argon Fill Clear-Clear	3.5	0.47	0.45	0.49
ATB-006-01 B	Al Thermally Broken B DG Argon Fill Clear-Clear	3.5	0.64	0.61	0.67

Custom windows*

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Garage	ATB-005-01 B	1.09	2855	1025	Awning	45	W	No
Guest	ATB-006-01 B	1.08	2420	2945	Double Hung	15	W	No
Laundry	ATB-006-01 B	1.07	2700	600	Double Hung	45	W	No
Kitchen/Living	ATB-006-01 B	W1	2825	1480	Double Hung	45	W	No
Kitchen/Living	ATB-006-01 B	W4	2825	6625	Sliding	45	N	Yes
Kitchen/Living	ATB-005-01 B	111	2825	1165	Awning	45	NE	No
Kitchen/Living	ATB-006-01 B	n/a	1850	800	Fixed	00	E	No
Kitchen/Living	ATB-006-01 B	n/a	1850	550	Fixed	00	E	No
Kitchen/Living	ATB-006-01 B	n/a	1850	696	Fixed	00	NE	No
Kitchen/Living	ATB-006-01 B	n/a	1850	640	Fixed	00	NE	No
Kitchen/Living	ATB-006-01 B	n/a	1850	785	Double Hung	45	NE	No
Bed01	ATB-005-01 B	W7	2750	1025	Awning	10	W	No
Bed01	ATB-006-01 B	W5	2700	500	Fixed	00	N	Yes
Bed01	ATB-006-01 B	W2	2745	6290	Sliding	30	S	Yes
Bath	ATB-006-01 B	W6	2700	1630	Double Hung	45	W	Yes

* Refer to glossary.

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bed 02	ATB-006-01 B	103	2750	3300	Sliding	60	W	Yes
Ens	ATB-006-01 B	101	2480	500	Fixed	00	S	Yes
Ens	ATB-005-01 B	W8	2700	2210	Awning	10	W	No
Master	ATB-006-01 B	W3	2630	6725	Sliding	45	N	Yes
Hallway	ATB-006-01 B	n/a	1850	569	Fixed	00	E	No
Hallway	ATB-006-01 B	n/a	1850	750	Fixed	00	E	No
Hallway	ATB-006-01 B	n/a	1850	918	Fixed	00	NE	No
Hallway	ATB-006-01 B	n/a	1850	1060	Double Hung	10	NE	No
Hallway	ATB-006-01 B	n/a	2750	4770	Fixed	00	NE	Yes
Hallway	ATB-006-01 B	n/a	2345	1680	Fixed	00	E	Yes
Hallway	ATB-006-01 B	n/a	2750	885	Fixed	00	S	No
entry	ATB-006-01 B	1.03 uf	2940	375	Fixed	00	E	No

Roof window* *type and performance value*

Default roof windows*

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

Custom roof windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
VEL-011-01 W	VEL-011-01 W VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Hallway	VEL-011-01 W	S2	0	1200	1200	NE	No	No

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

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

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	5650	90	S
Laundry	2700	720	90	W
entry	2940	1200	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.50		No insulation	No
EW-2	Cavity Brick	0.50		Foil Sided Bubble Wrap, Anti-glare one side	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage	EW-1	2855	6100	W	0	No
Garage	EW-1	2855	650	N	17650	No
Garage	EW-1	2855	6545	S	950	No
Guest	EW-2	3145	3840	W	650	No
Laundry	EW-2	3145	650	S	11000	No
Laundry	EW-2	3145	1695	W	0	No
Kitchen/Living	EW-2	2825	2745	W	0	No
Kitchen/Living	EW-2	2825	650	N	9150	No
Kitchen/Living	EW-2	2825	6200	W	650	No
Kitchen/Living	EW-2	2825	7150	N	2950	Yes

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-2	2825	4463	NE	0	No
Kitchen/Living	EW-2	2825	427	SE	0	No
Kitchen/Living	EW-2	2825	743	SE	25	No
Kitchen/Living	EW-2	2825	570	SE	35	No
Kitchen/Living	EW-2	2825	828	E	25	No
Kitchen/Living	EW-2	2825	552	E	75	No
Kitchen/Living	EW-2	2825	696	NE	0	No
Kitchen/Living	EW-2	2825	640	NE	0	No
Kitchen/Living	EW-2	2825	796	NE	0	No
Lift	EW-2	3145	1745	E	0	No
Lift	EW-2	3145	1945	S	2100	No
Bed01	EW-2	2750	3250	W	0	No
Bed01	EW-2	2750	2000	N	1800	No
Bed01	EW-2	2750	6545	S	1950	Yes
Bath	EW-2	2750	1840	W	1950	No
Bed 02	EW-2	2750	4740	W	550	No
Ens	EW-2	2700	2000	S	1450	No
Ens	EW-2	2700	4695	W	0	No
Master	EW-2	2700	3445	W	0	No
Master	EW-2	2700	8000	N	2400	Yes
Master	EW-2	2700	3001	NE	0	No
Master	EW-2	2700	1956	SE	0	No
Hallway	EW-2	2700	515	E	0	No
Hallway	EW-2	2700	757	E	25	No
Hallway	EW-2	2700	919	NE	0	No
Hallway	EW-2	2700	1063	NE	0	No
Hallway	EW-2	2700	583	N	0	No
Hallway	EW-2	2700	391	NE	0	No
Hallway	EW-2	2700	711	NE	0	No
Hallway	EW-2	2700	583	NE	0	No
Hallway	EW-2	2750	427	NE	0	No

* Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Hallway	EW-2	2750	4918	NE	0	No
Hallway	EW-2	2750	2450	E	1500	No
Hallway	EW-2	2750	461	SE	35	No
Hallway	EW-2	2750	515	SE	146	No
Hallway	EW-2	2750	945	S	900	No
entry	EW-2	3145	1015	NE	0	No
entry	EW-2	3145	673	NE	0	No
entry	EW-2	2940	650	NE	0	No
entry	EW-2	3145	5075	NE	0	No
entry	EW-2	3145	2450	E	1700	No
entry	EW-2	3145	680	SE	0	No
entry	EW-2	3145	583	SE	0	No
entry	EW-2	3145	1155	SE	0	No
lift upper	EW-2	2750	1795	E	0	No
lift upper	EW-2	2750	1945	S	1650	No

Internal wall *type*

Wall ID	Wall type	Area [m^2]	Bulk insulation
IW-001	Cavity Brick	24.41	Foil Sided Bubble Wrap, Anti-glare one side + Bulk Insulation R0.3
IW-002	Single Skin Brick	172.37	No insulation

Floor *type*

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 100mm	38.47	None	No Insulation	Bare
Guest	Concrete Slab on Ground 100mm	21.50	None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab on Ground 100mm	6.73	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 100mm	64.49	None	No Insulation	Ceramic Tiles 8mm
Lift	Concrete Slab on Ground 100mm	3.32	None	No Insulation	Bare

* Refer to glossary.

Location	Construction	Area [m^2]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bed01 / Garage	Rendered Concrete 172mm	20.87		No Insulation	Carpet+Rubber Underlay 18mm
Bath / Garage	Rendered Concrete 172mm	5.15		No Insulation	Ceramic Tiles 8mm
Bed 02 / Guest	Rendered Concrete 172mm	10.84		No Insulation	Carpet+Rubber Underlay 18mm
Bed 02 / Laundry	Rendered Concrete 172mm	1.63		No Insulation	Carpet+Rubber Underlay 18mm
Bed 02 / entry	Rendered Concrete 172mm	0.99		No Insulation	Carpet+Rubber Underlay 18mm
Ens / Laundry	Rendered Concrete 200mm	1.28		No Insulation	Ceramic Tiles 8mm
Ens / Kitchen/Living	Rendered Concrete 200mm	10.61		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Concrete Slab 200mm	0.21	Open	No Insulation	Ceramic Tiles 8mm
Master / Guest	Rendered Concrete 200mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Master / Laundry	Rendered Concrete 200mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Master / Kitchen/Living	Rendered Concrete 200mm	34.55		No Insulation	Carpet+Rubber Underlay 18mm
Master	Suspended Concrete Slab 200mm	0.43	Open	No Insulation	Carpet+Rubber Underlay 18mm
Hallway / Garage	Rendered Concrete 172mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
Hallway / Guest	Rendered Concrete 172mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
Hallway / Kitchen/Living	Rendered Concrete 172mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
Hallway / entry	Rendered Concrete 172mm	0.69		No Insulation	Cork Tiles or Parquetry 8mm
entry	Concrete Slab on Ground 100mm	30.77	None	No Insulation	Ceramic Tiles 8mm
lift upper / Lift	Rendered Concrete 172mm	0.43		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Concrete	No insulation	
Garage	Rendered Concrete	No Insulation	
Guest	Concrete	No insulation	
Guest	Rendered Concrete	No Insulation	

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Laundry	Concrete	No insulation	
Laundry	Rendered Concrete	No Insulation	
Kitchen/Living	Concrete	No insulation	
Kitchen/Living	Rendered Concrete	No Insulation	
Lift	Plasterboard on Timber	Bulk Insulation R4	
Lift	Rendered Concrete	No Insulation	
Bed01	Plasterboard on Timber	Bulk Insulation R4	
Bath	Plasterboard on Timber	Bulk Insulation R4	
Bed 02	Plasterboard on Timber	Bulk Insulation R4	
Ens	Plasterboard on Timber	Bulk Insulation R4	
Master	Plasterboard on Timber	Bulk Insulation R4	
Hallway	Plasterboard on Timber	Bulk Insulation R4	
entry	Plasterboard on Timber	Bulk Insulation R4	
entry	Rendered Concrete	No Insulation	
lift upper	Plasterboard on Timber	Bulk Insulation R4	

Ceiling *penetrations**

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	250	Sealed
Bath	1	Exhaust Fans	250	Sealed
Ens	2	Exhaust Fans	250	Sealed
entry	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium
Concrete	No Insulation, Only an Air Gap	0.50	Medium

* Refer to glossary.

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/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)

* Refer to glossary.