

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. 0009824731-09

Generated on 28 Jan 2025 using BERS Pro v5.2.4 (3.23)

Property

Address 77 Central Road,
AVALON BEACH, NSW, 2107

Lot/DP Lot 19 DP 8698

NCC class* 1a

Floor/all Floors G of 2 floors

Type New Home

Plans

Main plan Rev C, Issue Date: 04.12.2024

Prepared by Mathieson Architects

Construction and environment

Assessed floor area [m2]*	Exposure type
Conditioned* 332.7	Suburban
Unconditioned* 26.7	NatHERS climate zone
Total 437.0	56 Mascot (Sydney Airport)
Garage 77.5	



Accredited assessor

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Business name Certified Energy

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Accreditation No. 10056

Assessor Accrediting Organisation

HERA

Declaration of interest Declaration completed: no conflicts

NCC Requirements

NCC provisions Volume Two

State/Territory variation Yes

National Construction Code (NCC) requirements

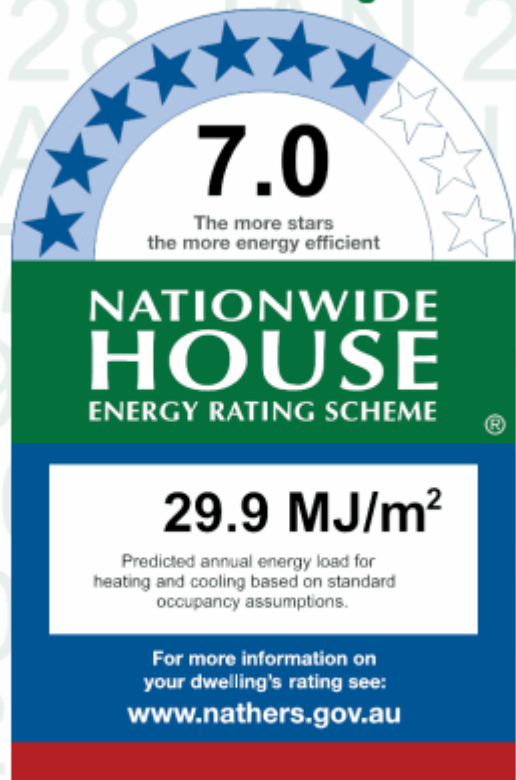
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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

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

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

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

Thermal performance Star rating



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	17.5	12.4
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
[hstar.com.au/QR/Generate?](http://hstar.com.au/QR/Generate?p=zLKipECNe)
[p=zLKipECNe](http://hstar.com.au/QR/Generate?p=zLKipECNe).
When using either link,
ensure you are visiting
hstar.com.au



About the ratings

Thermal performance rating

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

Whole of Home performance rating

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

Heating & Cooling Load Limits

Additional information

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

Setting Options:

Floor Type:

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

NCC Climate Zone 1 or 2:

Yes
No
NA – Not Applicable

Outdoor Living Area:

Yes
No
NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes
No
NA – Not Applicable



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use

No Whole of Home performance assessment conducted for this certificate

Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost

No Whole of Home performance assessment conducted for this certificate



Certificate check

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

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

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

Certificate check

Continued

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

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

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?

☐ ☐ ☐ ☐

Insulation installation method

Has the insulation been installed according to the NCC requirements?

☐ ☐ ☐

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?

☐ ☐ ☐ ☐

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

Appliances

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

☐ ☐ ☐ ☐ ☐

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

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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

*Obscure glazing has been modelled as clear glass as it has similar thermal properties.



Room schedule

Room	Zone Type	Area [m ²]
Garage	Garage	73.86
Store	Garage	3.66
Powder	Daytime	3.46
Gym	Daytime	15.43
Laundry	Unconditioned	6.79
Cullery	Daytime	6.42
Kitchen/Living	Kitchen/Living	50.81
Corridor	Daytime	23.94
Family	Living	33.39
Corridor_FF	Daytime	27.3
Ensuite 2	Unconditioned	4.84
Laundry 1st flo	Unconditioned	3.76
Study	Daytime	12.57
Bedroom 5	Bedroom	12.03
Bedroom 4	Bedroom	11.87
Bedroom 3	Bedroom	12.03
Bedroom 2	Bedroom	11.71
Ensuite 1	Nighttime	15.64
Bedroom 1	Bedroom	49.59
Living	Living	41.64
Bathroom	Unconditioned	11.33
Stairs_GF	Daytime	5.36
Linen	Daytime	3.11

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
BRD-108-014	Thermally Broken Aluminium Fixed Window DG DuoUltraNtl50 6/12/6	1.8	0.22	0.21	0.23
BRZ-010-003	Aluminium Louvre Window DG 6CEG1224/101/6CEG1224	2.9	0.11	0.10	0.11
ALS-070-345	Thermally Broken Aluminium Hinged Door DG 4LB#2-12Ar90%-4ClrEtech#4	2.0	0.33	0.31	0.34
BRD-109-005	Thermally Broken Aluminium Hinged Door DG 4SolTNtl/12Ar/4SolTNtl	2.1	0.29	0.28	0.31
BRD-102-333	Thermally Broken Aluminium Sliding Window DG AGG ADVANCE Clr 6/12/6	2.6	0.25	0.23	0.26
SHA-026-007	Thermally Broken Aluminium Stacking Door DG 8YKE0148(SYP)/24Ar/8Clr(SYP)	2.3	0.21	0.20	0.22

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Gym	BRD-108-014-001	n/a	3220	1400	Fixed	00	E	No
Gym	BRZ-010-003-001	n/a	3220	500	Louvre	90	E	No
Laundry	ALS-070-345-001	n/a	2500	1000	Casement	90	E	No
Kitchen/Living	BRD-108-014-001	n/a	3220	900	Fixed	00	E	No
Kitchen/Living	BRD-108-014-001	n/a	3220	5890	Sliding	60	S	Yes
Kitchen/Living	BRD-108-014-001	n/a	3220	3700	Fixed	00	W	Yes
Corridor	BRD-108-014-001	n/a	2200	2620	Fixed	00	W	Yes
Corridor	BRD-108-014-001	n/a	2200	2620	Fixed	00	W	Yes
Corridor	BRD-108-014-001	n/a	2200	2620	Fixed	00	W	Yes
Corridor	BRD-108-014-001	n/a	2200	1200	Casement	90	N	No
Corridor	ALS-070-345-001	n/a	3790	1200	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	S	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	N	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	N	No

* Refer to glossary.



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	N	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	N	No
Family	ALS-070-345-001	n/a	2500	1000	Casement	90	N	No
Corridor_FF	BRD-109-005-001	n/a	2700	900	Casement	90	W	No
Study	BRZ-010-003-001	n/a	2700	500	Louvre	90	E	Yes
Study	BRD-108-014-001	n/a	2700	1400	Fixed	00	E	Yes
Bedroom 5	BRZ-010-003-001	n/a	2700	500	Louvre	90	E	Yes
Bedroom 5	BRD-108-014-001	n/a	2700	1400	Fixed	00	E	Yes
Bedroom 4	BRZ-010-003-001	n/a	2700	500	Louvre	90	E	Yes
Bedroom 4	BRD-108-014-001	n/a	2700	1400	Fixed	00	E	Yes
Bedroom 3	BRZ-010-003-001	n/a	2700	500	Louvre	90	E	Yes
Bedroom 3	BRD-108-014-001	n/a	2700	1400	Fixed	00	E	Yes
Bedroom 2	BRD-108-014-001	n/a	2700	1950	Fixed	00	E	Yes
Bedroom 2	BRZ-010-003-001	n/a	3270	500	Louvre	90	E	Yes
Ensuite 1	BRD-108-014-001	n/a	3270	1950	Fixed	00	E	Yes
Ensuite 1	BRZ-010-003-001	n/a	3270	500	Louvre	90	E	Yes
Bedroom 1	BRD-108-014-001	n/a	3270	2450	Fixed	00	E	Yes
Bedroom 1	BRD-108-014-001	n/a	3270	500	Fixed	00	S	Yes
Bedroom 1	BRD-102-333-001	n/a	3270	1900	Sliding	10	S	Yes
Bedroom 1	BRD-102-333-001	n/a	3270	1900	Sliding	10	W	Yes
Living	SHA-026-007-002	n/a	2700	5915	Sliding	60	S	Yes
Living	SHA-026-007-002	n/a	2700	5915	Sliding	60	N	Yes
Bathroom	BRZ-010-003-001	n/a	2700	500	Louvre	90	W	Yes
Bathroom	BRD-108-014-001	n/a	2700	1400	Fixed	00	W	Yes

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-010-01 W	VEL-010-01 W VELUX	2.5	0.21	0.20	0.22
	VS - Ventilating				
	Skylight DG 3mm LoE				
	366 / 8.5mm Argon Gap / 5.36mm Clear La				

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Corridor_FF	VEL-010-01 W	S1	0	300	16200	W	Yes	Yes
Bathroom	VEL-010-01 W	S2	0	1400	600	W	Yes	Yes

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame	0.5

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Orientation	Outdoor shade	Diffuser
Laundry 1st flo	GEN-04-008a	S3	200	0.88	W	None	No
Bathroom	GEN-04-008a	S4	200	0.36	W	None	No

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2200	5890	90	N

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.85		Foil Anti-glare one side and Reflective other of the Bulk Insulation R1.7	Yes
EW-2	Cavity Brick	0.85		Foil reflective both sides of the Bulk Insulation R1.7	Yes
EW-3	Weatherboard Steel Stud Frame Panel Direct Fix	0.85		Anti-glare foil with bulk no gap R4	No



Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-4	Weatherboard Steel Stud Frame Panel Direct Fix	0.85		Anti-glare foil with bulk no gap R6	No
EW-5	Fibro Steel Stud Frame Panel Direct Fix	0.50		Anti-glare foil with bulk no gap R6	No
EW-6	Cavity Brick	0.50		Foil Anti-glare one side and Reflective other of the Bulk Insulation R6	Yes
EW-7	Fibro Steel Stud Frame Panel Direct Fix	0.85		Anti-glare foil with bulk no gap R4	No
EW-8	Cavity Brick	0.50		Foil reflective both sides of the Bulk Insulation R4	Yes
EW-9	Cavity Brick	0.50		Foil reflective both sides of the Bulk Insulation R6	Yes
EW-10	Cavity Brick	0.50		Foil Anti-glare one side and Reflective other of the Bulk Insulation R1.7	Yes
EW-11	Cavity Brick	0.85		Foil Anti-glare one side and Reflective other of the Bulk Insulation R4	Yes
EW-12	Cavity Brick	0.85		Foil Anti-glare one side and Reflective other of the Bulk Insulation R6	Yes
EW-13	Cavity Brick	0.50		Foil Anti-glare one side and Reflective other of the Bulk Insulation R4	Yes
EW-14	Weatherboard Steel Stud Frame Panel Direct Fix	0.85		Foil Anti-glare one side and Reflective other of the Bulk Insulation R6	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage	EW-1	3220	6100	N	0	No
Garage	EW-2	3220	12195	E	0	No
Garage	EW-1	3220	1700	W	7800	No
Store	EW-3	3220	1590	E	0	No
Gym	EW-4	3220	3190	E	0	No
Laundry	EW-4	3220	1890	E	0	Yes
Kitchen/Living	EW-4	3220	8995	E	0	No
Kitchen/Living	EW-4	3220	6100	S	3400	Yes
Kitchen/Living	EW-4	3220	8700	W	200	No
Corridor	EW-5	3220	8500	W	0	Yes
Corridor	EW-6	3220	1400	W	6400	No
Corridor	EW-6	3220	795	S	1300	No
Corridor	EW-7	3220	1340	N	1500	No

* Refer to glossary.



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Corridor	EW-5	3790	1390	S	0	Yes
Family	EW-8	3220	300	E	8300	No
Family	EW-5	3220	5000	S	1000	Yes
Family	EW-9	3220	300	W	600	No
Family	EW-6	3220	600	S	1300	No
Family	EW-10	3220	5000	W	0	No
Family	EW-11	3220	600	N	1400	No
Family	EW-12	3220	400	W	600	No
Family	EW-5	3220	5000	N	1000	Yes
Family	EW-8	3220	400	E	800	No
Family	EW-13	3220	800	N	1400	No
Family	EW-2	3220	2000	E	7500	No
Corridor_FF	EW-14	3270	5590	W	0	No
Ensuite 2	EW-14	3270	3490	W	0	No
Laundry 1st flo	EW-14	3270	2740	W	0	No
Study	EW-14	3270	3295	N	0	No
Study	EW-14	3270	3945	E	0	No
Bedroom 5	EW-14	3270	3840	E	200	No
Bedroom 4	EW-14	3270	3790	E	200	No
Bedroom 3	EW-14	3270	3840	E	0	No
Bedroom 2	EW-14	3270	3740	E	200	No
Ensuite 1	EW-14	3270	3890	E	200	No
Bedroom 1	EW-14	3270	7095	E	200	No
Bedroom 1	EW-14	3270	6100	S	0	No
Bedroom 1	EW-14	3270	10695	W	200	No
Living	EW-8	3220	495	S	300	No
Living	EW-8	3220	300	E	500	No
Living	EW-6	3220	8200	S	0	Yes
Living	EW-10	3220	4900	W	0	No
Living	EW-6	3220	8645	N	8600	Yes
Bathroom	EW-14	3270	5345	W	200	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bathroom	EW-14	3270	2795	N	0	No
Linen	EW-14	3270	2290	W	0	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Steel Stud Frame, Direct Fix Plasterboard	91.13	No insulation
IW-002	Steel Stud Frame, Direct Fix Plasterboard	299.03	Bulk Insulation, No Air Gap R2.5
IW-003	Cavity Brick	2.58	Foil reflective both sides of the Bulk Insulation R6
IW-004	Cavity Brick	0.00	Foil reflective both sides of the Bulk Insulation R1.7

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 500mm	73.86	None	Bulk Insulation in Contact with Floor R2.5	Bare
Store	Concrete Slab on Ground 500mm	3.66	None	Bulk Insulation in Contact with Floor R2.5	Bare
Powder	Concrete Slab on Ground 500mm	3.46	None	Bulk Insulation in Contact with Floor R2.5	Bare
Gym	Concrete Slab on Ground 500mm	15.43	None	Bulk Insulation in Contact with Floor R2.5	Bare
Laundry	Concrete Slab on Ground 500mm	6.79	None	Bulk Insulation in Contact with Floor R2.5	Bare
Cullery	Concrete Slab on Ground 500mm	6.42	None	Bulk Insulation in Contact with Floor R2.5	Bare



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 500mm	50.81	None	Bulk Insulation in Contact with Floor R2.5	Bare
Corridor	Concrete Slab on Ground 500mm	23.94	None	Bulk Insulation in Contact with Floor R2.5	Bare
Family	Concrete Slab on Ground 500mm	33.39	None	Bulk Insulation in Contact with Floor R2.5	Bare
Corridor_FF / Garage	Steel Framed Timber Above Plasterboard 19mm	6.29		Bulk Insulation R3.5	Bare
Corridor_FF / Powder	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Bare
Corridor_FF / Gym	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Bare
Corridor_FF / Laundry	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Bare
Corridor_FF / Kitchen/Living	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Bare
Corridor_FF / Stairs_GF	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Bare
Ensuite 2 / Garage	Steel Framed Timber Above Plasterboard 19mm	2.77		Bulk Insulation R3.5	Ceramic Tiles 8mm
Ensuite 2 / Stairs_GF	Steel Framed Timber Above Plasterboard 19mm	1.15		Bulk Insulation R2.5	Ceramic Tiles 8mm
Laundry 1st flo / Garage	Steel Framed Timber Above Plasterboard 19mm	3.76		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm
Study / Garage	Steel Framed Timber Above Plasterboard 19mm	12.57		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm
Bedroom 5 / Garage	Steel Framed Timber Above Plasterboard 19mm	12.03		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 4 / Garage	Steel Framed Timber Above Plasterboard 19mm	11.87		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm
Bedroom 3 / Garage	Steel Framed Timber Above Plasterboard 19mm	1.31		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm
Bedroom 3 / Store	Steel Framed Timber Above Plasterboard 19mm	3.33		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bedroom 3 / Powder	Steel Framed Timber Above Plasterboard 19mm	0.61		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bedroom 3 / Gym	Steel Framed Timber Above Plasterboard 19mm	4.77		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bedroom 2 / Gym	Steel Framed Timber Above Plasterboard 19mm	4.45		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bedroom 2 / Laundry	Steel Framed Timber Above Plasterboard 19mm	5.60		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bedroom 2 / Cullery	Steel Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Ensuite 1 / Cullery	Steel Framed Timber Above Plasterboard 19mm	4.88		Bulk Insulation R2.5	Bare
Ensuite 1 / Kitchen/Living	Steel Framed Timber Above Plasterboard 19mm	9.87		Bulk Insulation R2.5	Bare
Bedroom 1 / Kitchen/Living	Steel Framed Timber Above Plasterboard 19mm	35.56		Bulk Insulation R2.5	Bare
Bedroom 1	Suspended Floor Steel Frame 19mm	13.39	Totally Open	Foil Sided Bulk in Contact with Floor, Reflective Down with 0.20 Thermal Break R4.5	Bare
Living	Concrete Slab on Ground 500mm	41.64	None	Bulk Insulation in Contact with Floor R2.5	Bare



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bathroom / Garage	Steel Framed Timber Above Plasterboard 19mm	11.33		Bulk Insulation R3.5	Ceramic Tiles 8mm
Stairs_GF	Concrete Slab on Ground 500mm	5.36	None	Bulk Insulation in Contact with Floor R2.5	Bare
Linen / Garage	Steel Framed Timber Above Plasterboard 19mm	3.11		Bulk Insulation R3.5	Cork Tiles or Parquetry 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Plasterboard on Steel	Bulk Insulation R8	
Garage	Steel Framed Timber Above Plasterboard	Bulk Insulation R3.5	
Store	Plasterboard on Steel	Bulk Insulation R8	
Store	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Powder	Plasterboard on Steel	Bulk Insulation R8	
Powder	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Gym	Plasterboard on Steel	Bulk Insulation R8	
Gym	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Laundry	Plasterboard on Steel	Bulk Insulation R8	
Laundry	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Cullery	Plasterboard on Steel	Bulk Insulation R8	
Cullery	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Steel	Bulk Insulation R8	
Kitchen/Living	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Corridor	Plasterboard on Steel	Bulk Insulation R8	
Family	Plasterboard on Steel	Bulk Insulation R8	
Corridor_FF	Plasterboard on Steel	Bulk Insulation R8	
Ensuite 2	Plasterboard on Steel	Bulk Insulation R8	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Laundry 1st flo	Plasterboard on Steel	Bulk Insulation R8	
Study	Plasterboard on Steel	Bulk Insulation R8	
Bedroom 5	Plasterboard on Steel	Bulk Insulation R8	
Bedroom 4	Plasterboard on Steel	Bulk Insulation R8	
Bedroom 3	Plasterboard on Steel	Bulk Insulation R8	
Bedroom 2	Plasterboard on Steel	Bulk Insulation R8	
Ensuite 1	Plasterboard on Steel	Bulk Insulation R8	
Bedroom 1	Plasterboard on Steel	Bulk Insulation R8	
Living	Concrete, Plasterboard with Steel Frame	Foil Anti-glare one side and Reflective other of the Bulk Insulation R2.5	
Bathroom	Plasterboard on Steel	Bulk Insulation R8	
Stairs_GF	Steel Framed Timber Above Plasterboard	Bulk Insulation R2.5	
Linen	Plasterboard on Steel	Bulk Insulation R8	

Ceiling penetrations*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Gym	4	Downlights - LED	50	Sealed
Laundry	2	Downlights - LED	50	Sealed
Laundry	1	Exhaust Fans	50	Sealed
Cullery	2	Downlights - LED	50	Sealed
Kitchen/Living	11	Downlights - LED	50	Sealed
Kitchen/Living	1	Exhaust Fans	50	Sealed
Corridor	6	Downlights - LED	50	Sealed
Family	7	Downlights - LED	50	Sealed
Corridor_FF	6	Downlights - LED	50	Sealed
Ensuite 2	2	Downlights - LED	50	Sealed
Ensuite 2	1	Exhaust Fans	50	Sealed
Laundry 1st flo	1	Downlights - LED	50	Sealed
Laundry 1st flo	1	Exhaust Fans	50	Sealed
Study	3	Downlights - LED	50	Sealed
Bedroom 5	3	Downlights - LED	50	Sealed

* Refer to glossary.



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Bedroom 4	3	Downlights - LED	50	Sealed
Bedroom 3	3	Downlights - LED	50	Sealed
Bedroom 2	3	Downlights - LED	50	Sealed
Ensuite 1	4	Downlights - LED	50	Sealed
Ensuite 1	1	Exhaust Fans	50	Sealed
Bedroom 1	11	Downlights - LED	50	Sealed
Living	9	Downlights - LED	50	Sealed
Bathroom	3	Downlights - LED	50	Sealed
Bathroom	1	Exhaust Fans	50	Sealed
Stairs_GF	2	Downlights - LED	50	Sealed
Linen	1	Downlights - LED	50	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Gym	1	1400
Family	1	1400
Bedroom 5	1	1400
Bedroom 4	1	1400
Living	1	1400

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Corrugated Iron Steel Frame	Bulk, Reflective Side Down, Anti-glare Up R2.3	0.50	Medium
Waterproofing Membrane	Bulk, Reflective Side Down, Anti-glare Up R4.5	0.50	Medium
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.8	0.30	Light

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
Ceiling		900	0.75	No
Internal Wall		600	0.75	No
Internal Wall		600	0.75	R0.2



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	R0.2
Roof		900	1.5	No
Floor		450	1.5	No
Ceiling		900	0.75	R0.2
Floor		450	1.5	R0.2

Appliance schedule

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

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

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

Heating system

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

Hot water system

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

Pool/spa equipment

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

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		



Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

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

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

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

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

Accredited assessors

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

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

are not quality assured.

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

Disclaimer

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

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

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

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

Glossary

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

* Refer to glossary.