

# Nationwide House Energy Rating Scheme<sup>®</sup>

## NatHERS<sup>®</sup> Certificate No. 0011993904

Generated on 19 Jun 2025 using BERS Pro v5.2.4 (3.23)

### Property

**Address** Unit Eastern, Upper Clifford Avenue,  
FAIRLIGHT , NSW , 2094

**Lot/DP** Lot 48A DP 3212

**NCC class\*** 1a

**Floor/all Floors** G of 3 floors

**Type** New Home

### Plans

**Main plan** 48 Upper Clifford Avenue

**Prepared by** Action Plans

### Construction and environment

Assessed floor area [m2]*	Exposure type
Conditioned* 180.4	Suburban
Unconditioned* 7.5	<b>NatHERS climate zone</b>
Total 277.8	56 Mascot (Sydney Airport)
Garage 89.9	



### Accredited assessor

**Name** Terry Chapman

**Business name** CHAPMAN ENVIRONMENTAL SERVICES  
PTY LTD

**Email** info@cesenergy.com.au

**Phone** 1300 004 914

**Accreditation No.** 20920

**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](http://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<sup>®</sup>

**29.9 MJ/m<sup>2</sup>**

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](http://www.nathers.gov.au)

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	18.4	11.6
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=lywjtsaNk](http://hstar.com.au/QR/Generate?p=lywjtsaNk). When using either link, ensure you are visiting [hstar.com.au](http://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



## 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	
<b>Genuine certificate check</b>					
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"/>
<b>Thermal performance check</b>					
<b>Windows and glazed doors</b>					
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"/>
<b>External walls</b>					
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"/>
<b>Floor</b>					
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"/>
<b>Ceiling penetrations*</b>					
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"/>
<b>Ceiling</b>					
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"/>
<b>Roof</b>					
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"/>
<b>Apartment entrance doors (NCC Class 2 assessments only)</b>					
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"/>
<b>Exposure*</b>					
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"/>
<b>Heating and cooling load limits*</b>					
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"/>	<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"/>	<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"/>	<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 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"/>	<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"/>	<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

\* Refer to glossary.

## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Garage	Garage	56.44
Storage Service	Garage	29.78
Garage Lift	Daytime	1.53
Garage Stairs	Daytime	5.76
Entry/ Hall	Daytime	27.98
Ground Lift	Daytime	1.56
Master Bed	Bedroom	28.38
Ensuite	Nighttime	9.97
Bedroom 2	Bedroom	12.91
F Bath	Unconditioned	5.98
Bedroom 1	Bedroom	12.64
2nd Living	Living	16.88
Laundry	Daytime	3.51
Kitchen/Living	Kitchen/Living	40.38
Powder	Unconditioned	1.48
Upper Lift	Daytime	1.6
1st floor stair	Daytime	5.62
Living	Living	23.38
Cellar	Garage	3.64

## 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-163-012	Aluminium Hinged Door SG 6.38CPClr	4.4	0.47	0.44	0.49
BRD-149-005	Aluminium Sliding Window SG 6.38CPClr	4.6	0.60	0.57	0.63

\* Refer to glossary.



## Custom windows\*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
BRD-141-014	Aluminium Sliding Door DG LB Clr 5/8/5	3.0	0.50	0.48	0.53
VAN-004-003	Aluminium Louvre Window SG 6EVClr	4.7	0.49	0.47	0.52

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Entry/ Hall	BRD-163-012-002	W4	2700	1400	Casement	90	E	Yes
Master Bed	BRD-149-005-001	W2	850	2650	Sliding	10	E	No
Master Bed	BRD-141-014-001	W1	2700	3642	Sliding	60	S	No
Ensuite	VAN-004-003-001	W3	1500	600	Louvre	90	E	No
Bedroom 2	BRD-149-005-001	W7	1600	2650	Sliding	10	E	No
F Bath	BRD-149-005-001	W6	700	2000	Sliding	45	E	No
Bedroom 1	BRD-149-005-001	W5	1600	2650	Sliding	45	E	No
2nd Living	BRD-149-005-001	W8	850	2650	Sliding	10	E	No
2nd Living	BRD-141-014-001	W9	2700	3642	Sliding	60	N	No
Kitchen/Living	VAN-004-003-001	W20	2200	3999	Louvre	90	E	Yes
Kitchen/Living	BRD-141-014-001	W22	2500	2721	Sliding	45	N	No
Kitchen/Living	VAN-004-003-001	n/a	1500	752	Louvre	90	N	No
Kitchen/Living	VAN-004-003-001	W21	700	2721	Louvre	90	N	No
Powder	BRD-149-005-001	W13	550	1870	Sliding	10	E	No
Living	VAN-004-003-001	W19	1870	1000	Louvre	90	E	No
Living	BRD-141-014-001	n/a	2400	3575	Sliding	60	S	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	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
1st floor stair	VEL-011-01 W	S4	0	1400	780	S	Yes	Yes
1st floor stair	VEL-011-01 W	S6	0	1400	780	S	Yes	Yes

## 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 <sup>2</sup> ]	Orientation	Outdoor shade	Diffuser
No Data Available							

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2440	3560	90	S

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Concrete Block	0.30		No insulation	No
EW-2	Concrete Block	0.50		No insulation	No
EW-3	Extruded Poly Timber Stud Frame on Battens	0.30		Foil, Anti-glare one side + Bulk Insulation R2.5	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	2800	4095	E	0	No
Garage	EW-1	2800	700	S	0	No
Garage	EW-1	1500	8000	E	0	No
Garage	EW-2	1300	8000	E	0	No
Garage	EW-1	800	5000	S	0	No
Garage	EW-2	2000	5000	S	4700	No
Storage Service	EW-1	2800	6295	E	0	No
Storage Service	EW-1	2800	5700	N	0	No
Entry/ Hall	EW-3	2700	1490	E	1500	No
Master Bed	EW-3	2700	4095	E	1100	No
Master Bed	EW-3	2700	5000	S	3300	No
Ensuite	EW-3	2700	721	NE	1567	No
Ensuite	EW-3	2700	3095	E	1100	No
Bedroom 2	EW-3	2700	4290	E	400	No
F Bath	EW-3	2700	2090	E	400	No
Bedroom 1	EW-3	2700	4195	E	400	No
Bedroom 1	EW-3	2700	1100	S	12575	No
2nd Living	EW-3	2700	3695	E	400	No
2nd Living	EW-3	2700	3695	W	0	No
2nd Living	EW-3	2700	4600	N	1700	No
Laundry	EW-3	2700	1100	N	0	No
Kitchen/Living	EW-3	3600	995	E	0	No
Kitchen/Living	EW-3	3200	2095	E	0	No
Kitchen/Living	EW-3	2700	1300	E	0	No
Kitchen/Living	EW-3	3200	4195	E	0	No
Kitchen/Living	EW-3	3700	4800	N	2600	No
Powder	EW-3	3400	1890	E	0	No
Living	EW-3	2700	1395	E	0	No
Living	EW-3	3100	3500	E	0	No





Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Living	EW-3	2700	4800	S	1700	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Concrete Panel/Blocks filled, plasterboard	137.31	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	56.27	Bulk Insulation, No Air Gap R2.5
IW-003	Concrete Block	10.64	Bulk Insulation, No Air Gap R1.3
IW-004	Timber Stud Frame, Direct Fix Plasterboard	122.79	No insulation
IW-005	Concrete Block	14.85	No insulation

## Floor type

Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage	Concrete Slab on Ground 100mm	56.42	None	No Insulation	Bare
Storage Service	Concrete Slab on Ground 100mm	29.78	None	No Insulation	Bare
Garage Lift	Concrete Slab on Ground 100mm	1.53	None	No Insulation	Bare
Garage Stairs	Concrete Slab on Ground 100mm	5.76	None	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm
Entry/ Hall / Garage	Concrete Timber Framed Above Plasterboard 100mm	6.29		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
Entry/ Hall / Storage Service	Concrete Timber Framed Above Plasterboard 100mm	2.88		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
Entry/ Hall / Garage Stairs	Concrete Timber Framed Above Plasterboard 100mm	0.75		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
Entry/ Hall / Cellar	Concrete Timber Framed Above Plasterboard 100mm	0.00		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
Ground Lift / Garage Lift	Concrete Timber Framed Above Plasterboard 100mm	0.00		Bulk Insulation R2.3	Ceramic Tiles 8mm
Master Bed / Garage	Concrete Timber Framed Above Plasterboard 150mm	20.88		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Master Bed	Suspended Concrete Slab 150mm	7.24	Totally Open	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Ensuite / Garage	Concrete Timber Framed Above Plasterboard 100mm	9.97		Bulk Insulation R2.3	Ceramic Tiles 8mm
Bedroom 2 / Storage Service	Concrete Timber Framed Above Plasterboard 100mm	12.84		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
F Bath / Storage Service	Concrete Timber Framed Above Plasterboard 100mm	4.27		Bulk Insulation R2.3	Ceramic Tiles 8mm
F Bath / Celler	Concrete Timber Framed Above Plasterboard 100mm	0.87		Bulk Insulation R2.3	Ceramic Tiles 8mm
Bedroom 1 / Garage	Concrete Timber Framed Above Plasterboard 100mm	12.50		Bulk Insulation R2.3	Cork Tiles or Parquetry 8mm
2nd Living	Concrete Slab on Ground 100mm	16.88	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Laundry / Storage Service	Concrete Timber Framed Above Plasterboard 100mm	3.51		Bulk Insulation R2.3	Ceramic Tiles 8mm
Kitchen/Living / Entry/ Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	15.35		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living / Bedroom 2	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	7.14		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living / F Bath	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	4.01		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living / Bedroom 1	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	8.41		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living / Laundry	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	3.03		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Powder / Bedroom 2	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	1.48		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Upper Lift / Ground Lift	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	0.00		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
1st floor stair / Entry/ Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	1.62		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Living / Entry/ Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	7.02		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Living / Master Bed	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	7.11		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Living / Ensuite	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard 19mm	8.41		Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Cellar	Concrete Slab on Ground 100mm	3.64	None	No Insulation	Bare

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage	Concrete	No insulation	
Garage	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.3	
Storage Service	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.3	
Garage Lift	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.3	
Garage Stairs	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.3	
Entry/ Hall	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Ground Lift	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Master Bed	Metal outer layer sandwich panel with 125mm EPS	Bulk Insulation R6	
Master Bed	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Ensuite	Metal outer layer sandwich panel with 125mm EPS	Bulk Insulation R6	
Ensuite	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R6	
Bedroom 2	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
F Bath	Plasterboard on Timber	Bulk Insulation R6	
F Bath	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R6	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
2nd Living	Metal outer layer sandwich panel with 125mm EPS	Bulk Insulation R6	
Laundry	35mm Fibre-Reinforced Concrete Timber Frame Above Plasterboard	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R6	
Powder	Plasterboard on Timber	Bulk Insulation R6	
Upper Lift	Plasterboard on Timber	Bulk Insulation R6	
1st floor stair	Plasterboard on Timber	Bulk Insulation R6	
Living	Plasterboard on Timber	Bulk Insulation R6	
Cellar	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.3	

### Ceiling penetrations\*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Garage Stairs	1	Downlights - LED	150	Sealed
Entry/ Hall	5	Downlights - LED	150	Sealed
Master Bed	4	Downlights - LED	150	Sealed
Ensuite	1	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Bedroom 2	2	Downlights - LED	150	Sealed
F Bath	1	Downlights - LED	150	Sealed
F Bath	1	Exhaust Fans	300	Sealed
Bedroom 1	2	Downlights - LED	150	Sealed
2nd Living	4	Downlights - LED	150	Sealed
Laundry	1	Downlights - LED	150	Sealed
Laundry	1	Exhaust Fans	300	Sealed
Kitchen/Living	6	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Powder	1	Downlights - LED	150	Sealed
Powder	1	Exhaust Fans	300	Sealed
1st floor stair	1	Downlights - LED	150	Sealed
Living	4	Downlights - LED	150	Sealed

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter [mm]
Master Bed	1	1400
Bedroom 2	1	1400
Bedroom 1	1	1400
2nd Living	1	1400
Kitchen/Living	1	1400
Living	1	1400

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
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<sup>2</sup> 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
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No Data Available

### Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
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No Data Available

### Battery Schedule

System Type	Size [Battery Storage Capacity]
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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

<b>AFRC</b>	Australian Fenestration Rating Council
<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	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.
<b>COP</b>	Coefficient of performance
<b>Conditioned</b>	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.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>EER</b>	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<b>Energy use</b>	This is your home's rating without solar or batteries.
<b>Energy value</b>	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).
<b>Entrance door</b>	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.
<b>Exposure</b>	see exposure categories below.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	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).
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Net zero home</b>	a home that achieves a net zero energy value*.
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Recommended capacity</b>	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.
<b>Reflective wrap</b> (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.
<b>Roof window</b>	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.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Skylight</b> (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.
<b>Solar heat gain coefficient (SHGC)</b>	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.
<b>STCs</b>	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)
<b>Thermal breaks</b>	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
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	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).
<b>Window shading device</b>	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.