

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

## NatHERS<sup>®</sup> Certificate No. 0009438474-05

Generated on 25 Sep 2024 using BERS Pro v5.1.7 (3.22)

### Property

**Address** 20 BEATTY ST,  
BALGOWLAH HEIGHTS , NSW , 2093

**Lot/DP** Lot 2 DP 554948

**NCC class\*** 1a

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

**Type** New Home

### Plans

**Main plan** 20 BEATTY ST. BALGOWLAH HEIGHTS, NSW  
2093

**Prepared by** BJB Architects Pty Ltd

### Construction and environment

Assessed floor area [m2]*	Exposure type
Conditioned* 411.6	Suburban
Unconditioned* 40.0	<b>NatHERS climate zone</b>
Total 451.6	56 Mascot (Sydney Airport)
Garage 0.0	



### Accredited assessor

**Name** Martin Pinson

**Business name** INTEGREGCO

**Email** consulting@integreco.com

**Phone** 0422144603

**Accreditation No.** DMN/19/1921

**Assessor Accrediting Organisation**  
Design Matters National

**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>

**28.7 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	17.3	11.4
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?p=tRLCsZZPV](http://hstar.com.au/QR/Generate?p=tRLCsZZPV). When using either link, ensure you are visiting [hstar.com.au](http://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	
<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"/>
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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"/>
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#### Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

#### Appliances

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

	<input type="checkbox"/>				
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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"/>				
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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"/>				
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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"/>				
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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"/>				
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### Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Does the hot water system meet the additional requirements specified in the NCC?

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Provisional values\* check

Have provisional values\* been used in the assessment and, if so, are they noted in 'Additional notes' table below?

	<input type="checkbox"/>	<input type="checkbox"/>		
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### Other NCC requirements

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

#### Additional notes

Simulation notes

- Concrete type and width may need updating at CC stage with construction details (generic values assumed)

- Slabs with in-slab heating should have insulation installed around the vertical edge = R1.



- All floor types and thickness may need checking at CC stage, due to complexity of the proposed construction.
- No RCP provided at DA so generic holes assumed for all downlights (may need extra checking and rerunning at CC stage)
- No RCP provided at DA so generic holes assumed for all exhaust fans (may need extra checking and rerunning at CC stage)
- Roof spaces are n/a due to flat roofs. Details of roof design may need rechecking at CC stage.
- Window sizes used from elevations and sections (and this may need re-checking at CC stage). Commitment is made to check shop drawings and refine glazing values, if required.

## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Living	Living	49.23
Wine	Daytime	21.55
Bedroom 4	Bedroom	16.46
Storage	Unconditioned	25.48
Bathroom1	Daytime	6.4
Kitchen/Living 1	Kitchen/Living	122.01
Pantry	Daytime	9.86
Ldy	Unconditioned	9.31
Pwd	Unconditioned	5.17
L2 nezz	Daytime	33.83
Bedroom 2	Bedroom	16.51
Bedroom 3	Bedroom	14.24
Bedroom 1	Bedroom	16.71
Ens 2	Nighttime	6.85
Ens 1	Nighttime	6.36
Bedroom Master	Bedroom	39.53
Bed Office	Nighttime	12.4
WIR	Nighttime	11.61
Ens Master	Nighttime	12.3
Ens 3	Nighttime	5.1
Day1	Daytime	1.99
Family	Living	21.7



## 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
FIB-001-04 W	Fibreglass A SG Low Solar Gain Low-E	3.7	0.35	0.33	0.37
FIB-004-02 W	Fibreglass B DG Air Fill Tint-Clear	2.9	0.42	0.40	0.44

### 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*
Living	FIB-004-02 W	W5	2500	3100	Sliding	45	NE	No
Living	FIB-004-02 W	W6	2400	1200	Fixed	00	NE	No
Bedroom 4	FIB-004-02 W	W3	2500	3100	Sliding	45	NE	No
Bathroom1	FIB-004-02 W	W4	1200	1200	Fixed	00	NE	No
Kitchen/Living 1	FIB-004-02 W	W9	2600	1900	Fixed	00	NW	No
Kitchen/Living 1	FIB-004-02 W	W8	2850	9800	Sliding	65	NE	Yes
Kitchen/Living 1	FIB-004-02 W	W34	2600	1200	Fixed	00	NW	No
Kitchen/Living 1	FIB-004-02 W	W35	2850	1800	Fixed	00	SW	No
Kitchen/Living 1	FIB-004-02 W	W37	2850	4300	Sliding	65	SW	Yes
Pwd	FIB-001-04 W	W7	1500	800	Awning	90	SE	No
L2 nezz	FIB-004-02 W	W11	2100	5000	Fixed	00	NW	No
Bedroom 2	FIB-004-02 W	n/a	2100	2700	Sliding	45	SW	Yes
Bedroom 3	FIB-001-04 W	n/a	2700	800	Awning	10	NE	Yes
Bedroom 3	FIB-004-02 W	W25	1000	2000	Fixed	00	SE	No
Bedroom 1	FIB-004-02 W	n/a	2100	2700	Sliding	45	SW	Yes
Ens 2	FIB-001-04 W	n/a	1500	1100	Awning	10	SE	No
Ens 1	FIB-004-02 W	n/a	2100	1100	Fixed	00	NW	Yes
Bedroom Master	FIB-004-02 W	n/a	2100	2000	Fixed	00	NW	No

\* Refer to glossary.



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	FIB-004-02 W	n/a	2700	7200	Sliding	45	NE	No
Bed Office	FIB-004-02 W	n/a	2700	2500	Sliding	45	NE	No
Ens Master	FIB-004-02 W	n/a	2100	2800	Sliding	10	SW	Yes
Family	FIB-004-02 W	n/a	2600	1200	Fixed	00	SW	No
Family	FIB-004-02 W	n/a	2600	1200	Fixed	00	NW	No

## Roof window\* type and performance value

### Default roof windows\*

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

### Custom roof windows\*

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

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-009a	Double-glazed opal, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ]	Orientation	Outdoor shade	Diffuser
Ens 3	GEN-04-009a	n/a	50	0.81	NW	None	No

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Kitchen/Living 1	2600	2000	90	NW



Location	Height [mm]	Width [mm]	Opening %	Orientation
Ldy	2400	850	90	SE

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Tilt Up Concrete, Lined Timber Stud Frame	0.50		Foil Anti-glare one side and Bulk Insulation R2.5	Reflective other of the Yes

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Living	EW-1	2700	6395	NE	1000	Yes
Living	EW-1	2700	11000	SE	0	No
Living	EW-1	2700	7200	SE	0	No
Living	EW-1	2700	2395	SW	1200	No
Living	EW-1	2700	3395	SW	15000	No
Wine	EW-1	2700	6190	NW	7200	No
Bedroom 4	EW-1	2700	3795	SW	15000	No
Bedroom 4	EW-1	2700	4400	NW	0	No
Bedroom 4	EW-1	2700	3795	NE	1000	Yes
Storage	EW-1	2700	2595	SW	1200	No
Storage	EW-1	2700	7595	NW	7200	No
Bathroom1	EW-1	2700	1990	NE	1000	Yes
Kitchen/Living 1	EW-1	3100	7600	NW	0	Yes
Kitchen/Living 1	EW-1	3100	12600	NE	3200	Yes
Kitchen/Living 1	EW-1	3100	6795	SE	0	No
Kitchen/Living 1	EW-1	3100	4390	SE	0	No
Kitchen/Living 1	EW-1	3100	10595	NW	2400	Yes
Kitchen/Living 1	EW-1	3100	7600	SW	2000	Yes
Pantry	EW-1	3100	2990	SE	0	No
Ldy	EW-1	3100	2790	SE	0	No
Pwd	EW-1	3100	1190	SE	0	Yes
L2 nezz	EW-1	2700	5395	NW	500	Yes



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
L2 nezz	EW-1	2700	595	SW	13300	No
L2 nezz	EW-1	2700	1100	NE	10900	No
L2 nezz	EW-1	2700	4395	SE	500	No
Bedroom 2	EW-1	2700	4395	SE	500	No
Bedroom 2	EW-1	2700	3595	SW	500	Yes
Bedroom 3	EW-1	2700	1100	NE	6900	Yes
Bedroom 3	EW-1	2700	3995	SE	600	Yes
Bedroom 1	EW-1	2700	3595	SW	500	Yes
Bedroom 1	EW-1	2700	4395	NW	500	No
Ens 2	EW-1	2700	2990	SE	500	Yes
Ens 1	EW-1	2700	2995	NW	500	Yes
Ens 1	EW-1	2700	1200	NE	500	No
Bedroom Master	EW-1	2700	4795	NW	500	Yes
Bedroom Master	EW-1	2700	7795	NE	1100	Yes
Bed Office	EW-1	2700	3195	NE	1100	Yes
Bed Office	EW-1	2700	3995	SE	1100	No
WIR	EW-1	2700	2995	SW	500	No
WIR	EW-1	2700	3995	NW	500	No
Ens Master	EW-1	2700	2990	SW	500	Yes
Ens 3	EW-1	2700	595	SE	1100	No
Ens 3	EW-1	2700	1337	S	1565	No
Family	EW-1	3100	4395	SE	0	No
Family	EW-1	3100	5000	SW	0	Yes
Family	EW-1	3100	4395	NW	2400	Yes

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	333.63	No insulation



## Floor type

Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Living	Concrete Slab on Ground 200mm	49.23	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Wine	Concrete Slab on Ground 200mm	21.55	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Bedroom 4	Concrete Slab on Ground 200mm	16.46	None	Bulk Insulation in Contact with Floor R2.3	Carpet 10mm
Storage	Concrete Slab on Ground 200mm	25.48	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Bathroom1	Concrete Slab on Ground 200mm	6.40	None	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm
Kitchen/Living 1 / Living	Concrete Timber Framed Above Plasterboard 200mm	15.74		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living 1 / Wine	Concrete Timber Framed Above Plasterboard 200mm	18.37		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living 1 / Bedroom 4	Concrete Timber Framed Above Plasterboard 200mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living 1 / Storage	Concrete Timber Framed Above Plasterboard 200mm	16.11		No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living 1	Concrete Slab on Ground 200mm	58.49	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm
Pantry / Living	Concrete Timber Framed Above Plasterboard 200mm	4.11		No Insulation	Cork Tiles or Parquetry 8mm
Pantry / Storage	Concrete Timber Framed Above Plasterboard 200mm	5.83		No Insulation	Cork Tiles or Parquetry 8mm
Ldy	Concrete Slab on Ground 200mm	9.31	None	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm



Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Pwd	Concrete Slab on Ground 200mm	5.17	None	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm
L2 nezz / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	14.61		No Insulation	Cork Tiles or Parquetry 8mm
L2 nezz / Ldy	Concrete Timber Framed Above Plasterboard 200mm	0.00		No Insulation	Cork Tiles or Parquetry 8mm
L2 nezz	Suspended Concrete Slab 200mm	6.51	Totally Open	Bulk Insulation in Contact with Floor R2.3	Carpet 10mm
Bedroom 2 / Pwd	Concrete Timber Framed Above Plasterboard 200mm	4.01		No Insulation	Carpet 10mm
Bedroom 2 / Family	Concrete Timber Framed Above Plasterboard 200mm	11.74		No Insulation	Carpet 10mm
Bedroom 3 / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	7.28		No Insulation	Carpet 10mm
Bedroom 3 / Pantry	Concrete Timber Framed Above Plasterboard 200mm	6.52		No Insulation	Carpet 10mm
Bedroom 1 / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	2.38		No Insulation	Carpet 10mm
Bedroom 1 / Family	Concrete Timber Framed Above Plasterboard 200mm	4.45		No Insulation	Carpet 10mm
Bedroom 1	Suspended Concrete Slab 200mm	9.21	Totally Open	Bulk Insulation in Contact with Floor R2.3	Carpet 10mm
Ens 2 / Ldy	Concrete Timber Framed Above Plasterboard 200mm	6.06		No Insulation	Ceramic Tiles 8mm
Ens 2 / Pwd	Concrete Timber Framed Above Plasterboard 200mm	1.29		No Insulation	Ceramic Tiles 8mm
Ens 1	Suspended Concrete Slab 200mm	6.35	Totally Open	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm
Bedroom Master / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	39.52		No Insulation	Carpet 10mm
Bed Office / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	12.40		No Insulation	Carpet 10mm
WIR / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	8.03		No Insulation	Carpet 10mm



Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
WIR	Suspended Concrete Slab 200mm	3.30	Totally Open	Bulk Insulation in Contact with Floor R2.3	Carpet 10mm
Ens Master / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	8.76		No Insulation	Ceramic Tiles 8mm
Ens Master	Suspended Concrete Slab 200mm	3.37	Totally Open	Bulk Insulation in Contact with Floor R2.3	Ceramic Tiles 8mm
Ens 3 / Kitchen/Living 1	Concrete Timber Framed Above Plasterboard 200mm	5.13		No Insulation	Ceramic Tiles 8mm
Day1 / Ldy	Concrete Timber Framed Above Plasterboard 200mm	1.99		No Insulation	Carpet 10mm
Family	Concrete Slab on Ground 200mm	21.70	None	Bulk Insulation in Contact with Floor R2.3	Cork Tiles or Parquetry 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Living	Plasterboard on Timber	Bulk Insulation R5	
Living	Concrete Timber Framed Above Plasterboard	No Insulation	
Wine	Concrete Timber Framed Above Plasterboard	No Insulation	
Bedroom 4	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 4	Concrete Timber Framed Above Plasterboard	No Insulation	
Storage	Concrete Timber Framed Above Plasterboard	No Insulation	
Bathroom1	Plasterboard on Timber	Bulk Insulation R5	
Kitchen/Living 1	Plasterboard on Timber	Bulk Insulation R5	
Kitchen/Living 1	Concrete Timber Framed Above Plasterboard	No Insulation	
Pantry	Plasterboard on Timber	Bulk Insulation R5	
Pantry	Concrete Timber Framed Above Plasterboard	No Insulation	
Ldy	Concrete Timber Framed Above Plasterboard	No Insulation	
Pwd	Concrete Timber Framed Above Plasterboard	No Insulation	
L2 nezz	Plasterboard on Timber	Bulk Insulation R5	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 2	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R5	
Ens 2	Plasterboard on Timber	Bulk Insulation R5	
Ens 1	Plasterboard on Timber	Bulk Insulation R5	
Bedroom Master	Plasterboard on Timber	Bulk Insulation R5	
Bed Office	Plasterboard on Timber	Bulk Insulation R5	
WIR	Plasterboard on Timber	Bulk Insulation R5	
Ens Master	Plasterboard on Timber	Bulk Insulation R5	
Ens 3	Plasterboard on Timber	Bulk Insulation R5	
Day1	Plasterboard on Timber	Bulk Insulation R5	
Family	Plasterboard on Timber	Bulk Insulation R5	
Family	Concrete Timber Framed Above Plasterboard	No Insulation	

### Ceiling penetrations\*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Living	18	Downlights - LED	50	Sealed
Wine	8	Downlights - LED	50	Sealed
Bedroom 4	8	Downlights - LED	50	Sealed
Storage	11	Downlights - LED	50	Sealed
Bathroom1	2	Downlights - LED	50	Sealed
Bathroom1	1	Exhaust Fans	300	Sealed
Kitchen/Living 1	48	Downlights - LED	50	Sealed
Kitchen/Living 1	1	Exhaust Fans	300	Sealed
Pantry	4	Downlights - LED	50	Sealed
Ldy	2	Downlights - LED	50	Sealed
Ldy	1	Exhaust Fans	300	Sealed
Pwd	2	Downlights - LED	50	Sealed
Pwd	1	Exhaust Fans	300	Sealed
Bedroom 2	7	Downlights - LED	50	Sealed
Bedroom 3	6	Downlights - LED	50	Sealed
Bedroom 1	7	Downlights - LED	50	Sealed

\* Refer to glossary.



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Ens 2	2	Downlights - LED	50	Sealed
Ens 2	1	Exhaust Fans	300	Sealed
Ens 1	2	Downlights - LED	50	Sealed
Ens 1	1	Exhaust Fans	300	Sealed
Bedroom Master	15	Downlights - LED	50	Sealed
Bedroom Master	1	Chimneys	300	Sealed
Bed Office	5	Downlights - LED	50	Sealed
WIR	5	Downlights - LED	50	Sealed
Ens Master	7	Downlights - LED	50	Sealed
Ens Master	1	Exhaust Fans	300	Sealed
Ens 3	2	Downlights - LED	50	Sealed
Ens 3	1	Exhaust Fans	300	Sealed
Family	8	Downlights - LED	50	Sealed

## Ceiling fans

Location	Quantity	Diameter [mm]
Living	1	1400
Bedroom 4	1	1400
Kitchen/Living 1	2	1400
Bedroom 2	1	1400
Bedroom 3	1	1400
Bedroom 1	1	1400
Bedroom Master	1	1400
Bed Office	1	1400
Family	1	1400

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Concrete	No Insulation, Only an Air Gap	0.50	Medium
Roof Tiles Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.8	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
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

<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 sheathing 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.