

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

## NatHERS<sup>®</sup> Certificate No. 0011596491

Generated on 04 Dec 2024 using AccuRate Home v1.3.3.23

### Property

**Address** Unit 2, 41 Ferguson Street,  
Forestville , NSW , 2087

**Lot/DP** Lot 13 DP 25368

**NCC class\*** 1a

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

**Type** New Home

### Plans

**Main plan** 202426, 04-12-2024

**Prepared by** Mark Makhoul

### Construction and environment

<b>Assessed floor area [m2]*</b>		<b>Exposure type</b>
Conditioned*	233.8	Suburban
Unconditioned*	102.6	
Total	336.4	<b>NatHERS climate zone</b>
Garage	89.8	56 Mascot (Sydney Airport)



### Accredited assessor

**Name** Raymond Sleiman

**Business name** Taylor Smith Consulting

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**Phone** 02 9890 8002

**Accreditation No.** DMN/12/1472

**Assessor Accrediting Organisation** Design Matters National

**Declaration of interest** No

### 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>

**29.8 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
<b>Modelled</b>	0.0	0.0
<b>Load limits</b>	0.0	0.0

### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	
Outdoor living area	
Outdoor living area ceiling fan	

### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

### Verification

To verify this certificate, scan the QR code or visit [www.hstar.com.au/QR/Generate?p=UksddUmWL](http://www.hstar.com.au/QR/Generate?p=UksddUmWL). When using either link, ensure you are visiting [www.hstar.com.au](http://www.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"/>
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#### Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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### Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

#### Appliances

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

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

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

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

### Additional notes

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\* Refer to glossary.

## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
GARAGE	Garage	89.8
FOYER	Day time	16.6
STORE 1	Day time	12.2
WC	Day time	3.2
ENTRY/VOID	Day time	9.4
LIVING	Living	15.2
BATH 1	Day time	3.9
LDRY	Unconditioned	3.7
KIT/DIN/FAM	Living/Kitchen	62.8
PANTRY	Day time	4.1
GALLERY	Day time	25.3
BED 1	Bedroom	19.9
ENS 1	Night time	5.9
WIR 1	Night time	5.5
BED 2	Bedroom	16.6
BED 3	Bedroom	19.9
BATH 2	Unconditioned	9.1
BED 4	Bedroom	11.4
WC 2	Day time	1.9

## Window and glazed door type and performance

### Default windows\*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ATB-003-01 B	AI Thermally Broken A DG Air Fill Clear-Clear	3.6	0.47	0.45	0.49
ATB-004-01 B	AI Thermally Broken B DG Air Fill Clear-Clear	3.6	0.54	0.51	0.57

### Custom windows\*

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

\* Refer to glossary.

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
ENTRY/VOID	ATB-004-01 B	W20	2575	1200	Other	00	NE	None
ENTRY/VOID	ATB-004-01 B	W37	2400	2500	Other	00	NE	None
LIVING	ATB-004-01 B	W19	2400	3520	Other	00	NE	None
LIVING	ATB-004-01 B	W18	2575	2950	Sliding	45	NW	None
LDRY	ATB-003-01 B	W17	685	1210	Awning	90	NW	None
KIT/DIN/FAM	ATB-004-01 B	W13	2575	4450	Sliding	60	SW	None
KIT/DIN/FAM	ATB-004-01 B	W9	2315	2410	Other	00	SW	None
KIT/DIN/FAM	ATB-003-01 B	W14	1800	730	Awning	45	NW	None
KIT/DIN/FAM	ATB-003-01 B	W15	1800	730	Awning	45	NW	None
PANTRY	ATB-003-01 B	W16	685	1810	Awning	90	NW	None
BED 1	ATB-004-01 B	W35	2700	3330	Sliding	30	NW	None
BED 1	ATB-004-01 B	W36	2400	3500	Other	00	NE	None
ENS 1	ATB-003-01 B	W34	850	1600	Awning	90	NW	None
BED 2	ATB-004-01 B	W32	1800	2200	Sliding	45	NW	None
BED 3	ATB-004-01 B	W31	1800	2200	Sliding	10	NW	None
BED 3	ATB-003-01 B	W30	2140	600	Awning	10	SW	None
BATH 2	ATB-003-01 B	W33	850	1600	Awning	90	NW	None
BED 4	ATB-004-01 B	W29	1800	2200	Sliding	10	SW	None

## 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-011-02 W	VELUX FS - Fixed Skylight DG 3mm LoE 366 / 10.5mm Argon Gap / 3mm Clear	2.7	0.24	0.23	0.25



## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
GALLERY	VEL-011-02 W	SK1	0	1414	1414	NW	None	None
GALLERY	VEL-011-02 W	SK2	0	1414	1414	NW	None	None

## 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	2400	2900	0	NW
ENTRY/VOID	2575	1300	100	NE

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-001	Retaining Bituminous roof membrane/Concrete wall/Plasterboard	50.00	Medium	Polystyrene extruded: R2.5	No
EW-003	Retaining Bituminous roof membrane/Concrete block/Plasterboard	50.00	Medium		No
EW-004	Brick wall/Plasterboard	30.00	Light	Polystyrene expanded (k = 0.039): R0.3	Yes
EW-005	Concrete block/Plasterboard	30.00	Light		No
EW-007	Fibre-cement sheet/Plasterboard	85.00	Dark	Rockwool batt: 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-003	2500	6000	SW		No
GARAGE	EW-005	2500	3700	NW		No
GARAGE	EW-003	1500	9200	NW		No
GARAGE	EW-005	1000	9200	NW		No
GARAGE	EW-003	900	800	NW		No
GARAGE	EW-005	1600	800	NW		No
GARAGE	EW-003	1400	8900	NE		No
GARAGE	EW-005	1100	8900	NE		No
STORE 1	EW-001	2400	2770	SW		No
WC	EW-001	2400	1300	NE		No
ENTRY/VOID	EW-004	5700	2500	NE	2100	Yes
LIVING	EW-004	2700	4700	NE	1200	Yes
LIVING	EW-004	2700	3150	NW	1750	Yes
LIVING	EW-004	2700	600	SE	2500	Yes
LDRY	EW-004	2700	1500	NW		No
LDRY	EW-004	2700	1300	NE	4600	Yes
KIT/DIN/FAM	EW-004	2700	8900	SW	1700	Yes
KIT/DIN/FAM	EW-004	2700	5160	NW		No
PANTRY	EW-004	2700	2700	NW		No
BED 1	EW-007	2700	3800	NW	1700	Yes
BED 1	EW-007	2700	4800	NE	1000	Yes
BED 1	EW-007	2700	900	SE		No
ENS 1	EW-007	2700	1420	NE	5000	Yes
ENS 1	EW-007	2700	2200	NW		No
BED 2	EW-007	2700	4200	NW		No
BED 3	EW-007	2700	4000	NW		No
BED 3	EW-007	2700	5100	SW		No
BED 3	EW-007	2700	1550	SE		No
BATH 2	EW-007	2700	2300	NW		No





Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
BED 4	EW-007	2700	3800	SW		No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Plasterboard/Brick wall	76.61	
IW-002	Plasterboard/Brick wall	34.80	Polystyrene extruded: R2.5
IW-003	Plasterboard	132.00	
IW-004	Plasterboard/Concrete wall	104.21	

## Floor type

Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
GARAGE/Ground	Concrete Slab 200 mm: bare/bare	89.80			
FOYER/Ground	Concrete Slab 200 mm: ceramic tiles/bare	16.60			Ceramic tile
STORE 1/Ground	Concrete Slab 200 mm: ceramic tiles/bare	12.20			Ceramic tile
WC/Ground	Concrete Slab 200 mm: ceramic tiles/bare	3.20			Ceramic tile
ENTRY/VOID/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	1.80		R3.0	
ENTRY/VOID/WC	Concrete Slab 200 mm: timber/plasterboard	3.20			
ENTRY/VOID/FOYER	Concrete Slab 200 mm: timber/plasterboard	6.70			
LIVING/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	15.20		R3.0	
BATH 1/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	3.90		R3.0	Ceramic tile
LDRY/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	3.70		R3.0	Ceramic tile
KIT/DIN/FAM/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	44.50		R3.0	
KIT/DIN/FAM/STORE 1	Concrete Slab 200 mm: timber/plasterboard	12.20			
KIT/DIN/FAM/FOYER	Concrete Slab 200 mm: timber/plasterboard	9.90			



Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
PANTRY/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	4.10		R3.0	Ceramic tile
GALLERY/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard	33.00			
GALLERY/ENTRY/VOID	Concrete Slab 200 mm: timber/plasterboard	1.70			
BED 1/LIVING	Concrete Slab 200 mm: timber/plasterboard	15.20			
BED 1/Outdoor Air	S/S Concrete Slab 200 mm: timber/bare R3.0 XPS	3.10		R3.0	
BED 1/ENTRY/VOID	Concrete Slab 200 mm: timber/plasterboard	1.60			
ENS 1/LDRY	Concrete Slab 200 mm: ceramic tiles/plasterboard	3.70			Ceramic tile
ENS 1/PANTRY	Concrete Slab 200 mm: ceramic tiles/plasterboard	1.50			Ceramic tile
ENS 1/Outdoor Air	S/S Concrete Slab 200 mm: Tile/bare R3.0 XPS	0.70		R3.0	Ceramic tile
WIR 1/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard	1.60			
WIR 1/BATH 1	Concrete Slab 200 mm: timber/plasterboard	3.90			
BED 2/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard	16.60			
BED 3/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard	3.00			
BED 3/Outdoor Air	S/S Concrete Slab 200 mm: timber/bare R3.0 XPS	16.90		R3.0	
BATH 2/KIT/DIN/FAM	Concrete Slab 200 mm: ceramic tiles/plasterboard	6.50			Ceramic tile
BATH 2/PANTRY	Concrete Slab 200 mm: ceramic tiles/plasterboard	2.60			Ceramic tile
BED 4/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard	5.40			
BED 4/Outdoor Air	S/S Concrete Slab 200 mm: timber/bare R3.0 XPS	6.00		R3.0	
WC 2/KIT/DIN/FAM	Concrete Slab 200 mm: ceramic tiles/plasterboard	1.90			Ceramic tile

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
KIT/DIN/FAM/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	R3.0	No



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
ENTRY/VOID/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	R3.0	No
LIVING/GARAGE	GAR Concrete Slab 200 mm: timber/plasterboard R3.0 XPS	R3.0	No
PANTRY/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	R3.0	No
LDRY/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	R3.0	No
BATH 1/GARAGE	GAR Concrete Slab 200 mm: ceramic tiles/plasterboard R3.0 XPS	R3.0	No
KIT/DIN/FAM/FOYER	Concrete Slab 200 mm: timber/plasterboard		No
ENTRY/VOID/FOYER	Concrete Slab 200 mm: timber/plasterboard		No
KIT/DIN/FAM/STORE 1	Concrete Slab 200 mm: timber/plasterboard		No
ENTRY/VOID/WC	Concrete Slab 200 mm: timber/plasterboard		No
BED 1/ENTRY/VOID	Concrete Slab 200 mm: timber/plasterboard		No
GALLERY/ENTRY/VOID	Concrete Slab 200 mm: timber/plasterboard		No
BED 1/LIVING	Concrete Slab 200 mm: timber/plasterboard		No
WIR 1/BATH 1	Concrete Slab 200 mm: timber/plasterboard		No
ENS 1/LDRY	Concrete Slab 200 mm: ceramic tiles/plasterboard		No
WIR 1/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard		No
GALLERY/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard		No
BATH 2/KIT/DIN/FAM	Concrete Slab 200 mm: ceramic tiles/plasterboard		No
BED 2/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard		No
BED 3/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard		No
WC 2/KIT/DIN/FAM	Concrete Slab 200 mm: ceramic tiles/plasterboard		No
BED 4/KIT/DIN/FAM	Concrete Slab 200 mm: timber/plasterboard		No
ENS 1/PANTRY	Concrete Slab 200 mm: ceramic tiles/plasterboard		No
BATH 2/PANTRY	Concrete Slab 200 mm: ceramic tiles/plasterboard		No

### Ceiling penetrations\*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
FOYER	3	Downlight	0	Sealed
STORE 1	2	Downlight	250	Sealed
WC	1	Downlight	0	Sealed
WC	1	Ceiling exhaust fan	250	Sealed



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
ENTRY/VOID	2	Downlight	0	Sealed
LIVING	3	Downlight	0	Sealed
BATH 1	1	Downlight	0	Sealed
BATH 1	1	Ceiling exhaust fan	250	Sealed
LDRY	1	Downlight	0	Sealed
LDRY	1	Ceiling exhaust fan	250	Sealed
KIT/DIN/FAM	13	Downlight	0	Sealed
KIT/DIN/FAM	1	Ceiling exhaust fan	250	Sealed
PANTRY	1	Downlight	250	Sealed
GALLERY	5	Downlight	0	Sealed
BED 1	3	Downlight	0	Sealed
ENS 1	2	Downlight	0	Sealed
ENS 1	1	Ceiling exhaust fan	250	Sealed
WIR 1	2	Downlight	0	Sealed
BED 2	4	Downlight	0	Sealed
BED 3	3	Downlight	0	Sealed
BATH 2	2	Downlight	0	Sealed
BATH 2	1	Ceiling exhaust fan	250	Sealed
WC 2	1	Downlight	250	Sealed
WC 2	1	Ceiling exhaust fan	250	Sealed

## Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
CONC_ROOF-B012.rof #2047 © Concrete slab 200mm - WP Membrane surface - R3.0 insulation under slab - PB ceiling under	R3.0	50.00	Medium
GAR BALC_ROOF-B012.rof #1003 © Concrete slab 200mm - Tile walking surface - no insulation - No ceiling under		50.00	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 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.