Nationwide House Energy Rating Scheme — Multiple Class1-dwelling summary NatHERS Certificate No. 0004636150

Generated on 12 Apr 2022 using BERS Pro v4.4.1.5 (3.21)

Property

Address 417A Maroubra Rd , Maroubra , NSW , 2035

Lot/DP A/440602

NatHERS climate zone 56

Accredited assessor

John Boutros

Greenworld Architectural Drafting

greenworldarchi@outlook.com

02 9652 0045

Accreditation No. DMN/16/1763

Assessor Accrediting Organisation Design Matters National

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=AulmDIELr . When using either link, ensure you are visiting hstar.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m^2/p.a.)	Cooling load (MJ/m^2/p.a.)	Total load (MJ/m^2/p.a.)	Star rating
0006207054-01	1	39.3	22.8	62.1	5.2
0006207062-01	2	39.7	25.5	65.2	5.1

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated buildings are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

Explanatory Notes

About this report

This is a summary of NCC Class 1 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

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Disclaimer

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006207054-01

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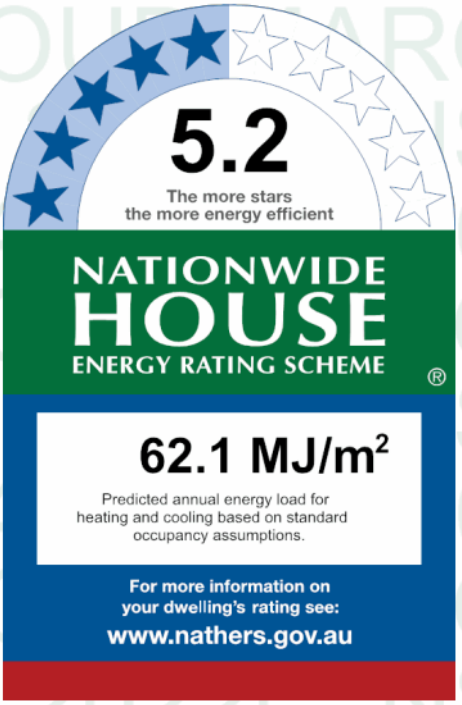

Property

Address	Unit 1, 417A Maroubra Rd , Maroubra , NSW , 2035
Lot/DP	A/440602
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision D
Prepared by	ArchiSpectrum

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	284.0	Suburban
Unconditioned*	33.0	**NatHERS climate zone**
Total	317.0	56
Garage	24.0	

Thermal performance

Heating	Cooling
39.3 MJ/m^2	22.8 MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

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National Construction Code (NCC) requirements

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In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional notes

I have modeled the shading in accordance with NatHERS principles

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
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

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*
Rumpus	ALM-002-01 A	n/a	600	2400	n/a	45	SE	No
Rumpus	ALM-002-01 A	n/a	600	2400	n/a	45	SE	No
Rumpus	ALM-002-01 A	n/a	600	3000	n/a	45	NW	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Rumpus	ALM-002-01 A	n/a	2650	2500	n/a	45	NE	No
Ldry	ALM-002-01 A	n/a	600	900	n/a	45	NW	No
Guest Bedroom	ALM-002-01 A	n/a	1400	2400	n/a	45	SE	No
FF Stairs	ALM-002-01 A	n/a	2500	1000	n/a	30	NW	No
FF WC	ALM-002-01 A	n/a	600	900	n/a	45	NW	No
Bedroom 2	ALM-002-01 A	n/a	600	3000	n/a	45	NW	No
Bedroom 2	ALM-002-01 A	n/a	2600	2100	n/a	45	NE	No
Bedroom 3	ALM-002-01 A	n/a	1400	2400	n/a	45	SE	No
B1 Ens	ALM-002-01 A	n/a	600	1800	n/a	45	SE	No
Bedroom 1	ALM-002-01 A	n/a	2600	3700	n/a	60	NE	No
Bedroom 1	ALM-002-01 A	n/a	600	2400	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	2700	1000	n/a	30	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	4850	n/a	00	NW	No
Kitchen/Living	ALM-002-01 A	n/a	1600	1800	n/a	00	NE	No
Kitchen/Living	ALM-002-01 A	n/a	1600	750	n/a	00	SE	No
Kitchen/Living	ALM-002-01 A	n/a	2600	4400	n/a	45	NE	No
Kitchen/Living	ALM-002-01 A	n/a	1400	2400	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	1400	2400	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	1400	2400	n/a	45	SE	No
GF Entry/Hall	ALM-002-01 A	n/a	2650	400	n/a	00	NW	No

Roof window *type and performance*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
SG-Generic-01 A	Glass	7.3	0.79	0.75	0.83

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
SF WC	SG-Generic-01 A	n/a	0	600	600	NW	No	No

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
GF Entry/Hall	2650	920	90	NW
Garage	2650	3500	90	NE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete Block	0.50	Medium	No insulation	No
EW-2	Concrete Block	0.50	Medium	No insulation	No
EW-3	Concrete Block	0.30	Light	No insulation	No
EW-4	Cavity Brick	0.30	Light	Foil Sided Bubble Wrap, Anti-glare one side	No
EW-5	Cavity Brick	0.30	Light	Foil Sided Bubble Wrap, Anti-glare one side	No
EW-6	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-7	Fibro Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap 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)
Rumpus	EW-1	2750	7000	NE	0	NO
Rumpus	EW-2	2000	9600	SE	0	NO
Rumpus	EW-2	750	9600	SE	0	NO
Rumpus	EW-1	2750	5755	SW	0	NO
Rumpus	EW-3	2750	4400	NW	0	YES
WC	EW-1	2750	2155	NW	0	YES
WC	EW-1	2750	1255	NE	0	YES
LG Stairs	EW-1	2750	3755	SW	0	NO
LG Stairs	EW-1	2750	3000	NW	0	NO
LG Stairs	EW-1	2750	1300	NE	0	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Rumpus	EW-4	2650	4745	NW	100	NO
Rumpus	EW-5	2650	4845	NE	1450	NO
Ldry	EW-5	2650	1990	NW	0	YES
Guest Bedroom	EW-5	2650	3545	SE	100	NO
FF Stairs	EW-6	2600	3000	NW	0	NO
FF Stairs	EW-6	2600	600	NE	0	YES
FF Stairs	EW-5	2600	345	NW	100	YES
FF Stairs	EW-6	2600	500	SW	0	NO
FF WC	EW-5	2600	1890	NW	100	NO
Bedroom 2	EW-5	2600	4445	NW	100	NO
Bedroom 2	EW-4	2600	3745	NE	525	NO
Bedroom 3	EW-5	2600	3545	SE	100	NO
B1 Ens	EW-5	2600	1790	SE	100	NO
Bedroom 1	EW-5	2600	5145	NE	2200	NO
Bedroom 1	EW-5	2600	4345	SE	100	NO
Kitchen/Living	EW-6	2700	3000	NW	0	NO
Kitchen/Living	EW-6	2700	600	NE	0	YES
Kitchen/Living	EW-7	2700	5495	NW	0	NO
Kitchen/Living	EW-7	2700	3200	NE	300	NO
Kitchen/Living	EW-7	2700	1100	SE	5500	YES
Kitchen/Living	EW-7	2700	5200	NE	2800	YES
Kitchen/Living	EW-7	2700	8500	SE	300	NO
Kitchen/Living	EW-7	2700	1100	SW	0	NO
Kitchen/Living	EW-6	2700	1400	SW	0	NO
SF WC	EW-7	2700	1090	NW	0	YES
GF Entry/Hall	EW-4	2650	2800	SW	2600	NO
GF Entry/Hall	EW-6	2650	500	SW	0	NO
GF Entry/Hall	EW-6	2650	3000	NW	1100	NO
GF Entry/Hall	EW-6	2600	600	NE	0	YES
Garage	EW-5	2650	245	NE	2200	NO
Garage	EW-5	2650	300	SE	3800	YES
Garage	EW-5	2650	3800	NE	2500	YES
Garage	EW-5	2650	5945	SE	100	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Concrete Block		21.00	No insulation
IW-2 - Single Skin Brick		150.00	No insulation

* Refer to glossary.

Wall ID	Wall type	Area (m)	Bulk insulation
IW-3 - Cavity brick, plasterboard		58.00	No Insulation
IW-4 - Cavity wall, direct fix plasterboard, single gap		19.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Rumpus	Concrete Slab on Ground 100mm	65.60	None	No Insulation	Carpet+Rubber Underlay 18mm
WC	Concrete Slab on Ground 100mm	2.70	None	No Insulation	Ceramic Tiles 8mm
LG Stairs	Concrete Slab on Ground 100mm	8.90	None	No Insulation	Carpet+Rubber Underlay 18mm
Rumpus/Rumpus	Concrete Above Plasterboard 100mm	12.80		No Insulation	40/60 Carpet 10mm/Ceramic
Rumpus	Concrete Slab on Ground 100mm	10.10	None	No Insulation	Carpet+Rubber Underlay 18mm
Ldry/WC	Concrete Above Plasterboard 100mm	1.90		No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 100mm	1.30	None	No Insulation	Ceramic Tiles 8mm
Guest Bedroom/Rumpus	Concrete Above Plasterboard 100mm	15.20		No Insulation	Carpet+Rubber Underlay 18mm
FF Stairs/Ldry	Concrete Above Plasterboard 150mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
FF Stairs/GF Bath	Concrete Above Plasterboard 150mm	2.20		No Insulation	Carpet+Rubber Underlay 18mm
FF Stairs/GF Entry/Hall	Concrete Above Plasterboard 150mm	14.40		No Insulation	Carpet+Rubber Underlay 18mm
FF WC/Rumpus	Concrete Above Plasterboard 150mm	0.70		No Insulation	Ceramic Tiles 8mm
FF WC/Ldry	Concrete Above Plasterboard 150mm	2.70		No Insulation	Ceramic Tiles 8mm
FF WC/GF Bath	Concrete Above Plasterboard 150mm	1.90		No Insulation	Ceramic Tiles 8mm
Bedroom 2/Rumpus	Concrete Above Plasterboard 150mm	16.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Guest Bedroom	Concrete Above Plasterboard 150mm	15.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/GF Entry/Hall	Concrete Above Plasterboard 150mm	1.20		No Insulation	Carpet+Rubber Underlay 18mm
B1 Ens/Garage	Concrete Above Plasterboard 150mm	6.20		No Insulation	Ceramic Tiles 8mm
Bedroom 1/Rumpus	Concrete Above Plasterboard 150mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/GF Entry/Hall	Concrete Above Plasterboard 150mm	1.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Garage	Concrete Above Plasterboard 150mm	17.50		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Concrete Slab 150mm	1.10	Open	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living/FF Stairs	Concrete Above Plasterboard 150mm	17.30		No Insulation	40/60 Carpet 10mm/Ceramic
Kitchen/Living/FF WC	Concrete Above Plasterboard 150mm	3.50		No Insulation	40/60 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 2	Concrete Above Plasterboard 150mm	15.20		No Insulation	40/60 Carpet 10mm/Ceramic
Kitchen/Living/Bedroom 3	Concrete Above Plasterboard 150mm	14.70		No Insulation	40/60 Carpet 10mm/Ceramic
Kitchen/Living/B1 Ens	Concrete Above Plasterboard 150mm	5.50		No Insulation	40/60 Carpet 10mm/Ceramic

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living/Bedroom 1	Concrete Above Plasterboard 150mm	17.00		No Insulation	40/60 Carpet 10mm/Ceramic
SF WC/FF Stairs	Concrete Above Plasterboard 150mm	0.80		No Insulation	Ceramic Tiles 8mm
SF WC/FF WC	Concrete Above Plasterboard 150mm	2.10		No Insulation	Ceramic Tiles 8mm
GF Bath/Rumpus	Concrete Above Plasterboard 100mm	3.40		No Insulation	Ceramic Tiles 8mm
GF Bath/WC	Concrete Above Plasterboard 100mm	0.60		No Insulation	Ceramic Tiles 8mm
GF Entry/Hall/Rumpus	Concrete Above Plasterboard 100mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
GF Entry/Hall/LG Stairs	Concrete Above Plasterboard 100mm	8.80		No Insulation	Carpet+Rubber Underlay 18mm
Garage/Rumpus	Concrete Above Plasterboard 100mm	24.00		No Insulation	Bare

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Rumpus	Plasterboard	Bulk Insulation R2.5	No
Rumpus	Concrete Above Plasterboard	No Insulation	No
WC	Plasterboard	Bulk Insulation R2.5	No
WC	Concrete Above Plasterboard	No Insulation	No
LG Stairs	Plasterboard	Bulk Insulation R2.5	No
LG Stairs	Concrete Above Plasterboard	No Insulation	No
Rumpus	Plasterboard	Bulk Insulation R3	No
Rumpus	Concrete Above Plasterboard	No Insulation	No
Ldry	Plasterboard	Bulk Insulation R3	No
Ldry	Concrete Above Plasterboard	No Insulation	No
Guest Bedroom	Plasterboard	Bulk Insulation R3	No
Guest Bedroom	Concrete Above Plasterboard	No Insulation	No
FF Stairs	Plasterboard	Bulk Insulation R3	No
FF Stairs	Concrete Above Plasterboard	No Insulation	No
FF WC	Plasterboard	Bulk Insulation R3	No
FF WC	Concrete Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R3	No
Bedroom 2	Concrete Above Plasterboard	No Insulation	No
Bedroom 3	Plasterboard	Bulk Insulation R3	No
Bedroom 3	Concrete Above Plasterboard	No Insulation	No
B1 Ens	Plasterboard	Bulk Insulation R3	No
B1 Ens	Concrete Above Plasterboard	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R3	No
Bedroom 1	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R3	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
SF WC	Plasterboard	Bulk Insulation R3	No
GF Bath	Plasterboard	Bulk Insulation R3	No
GF Bath	Concrete Above Plasterboard	No Insulation	No
GF Entry/Hall	Plasterboard	Bulk Insulation R3	No
GF Entry/Hall	Concrete Above Plasterboard	No Insulation	No
Garage	Plasterboard	Bulk Insulation R3	No
Garage	Concrete Above Plasterboard	No Insulation	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Rumpus	18	Downlights - LED	150	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
LG Stairs	3	Downlights - LED	150	Sealed
Rumpus	9	Downlights - LED	150	Sealed
Ldry	4	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	300	Sealed
FF Stairs	6	Downlights - LED	150	Sealed
FF WC	4	Downlights - LED	150	Sealed
FF WC	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Unsealed
B1 Ens	4	Downlights - LED	150	Sealed
B1 Ens	1	Exhaust Fans	300	Sealed
Bedroom 1	10	Downlights - LED	150	Sealed
Kitchen/Living	20	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
SF WC	2	Downlights - LED	150	Sealed
SF WC	1	Exhaust Fans	300	Sealed
GF Bath	4	Downlights - LED	150	Sealed
GF Bath	1	Exhaust Fans	300	Sealed
Garage	8	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	No Insulation, Only an Air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.30	Light

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

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Disclaimer

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The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings 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, indoor air temperature and local climate.

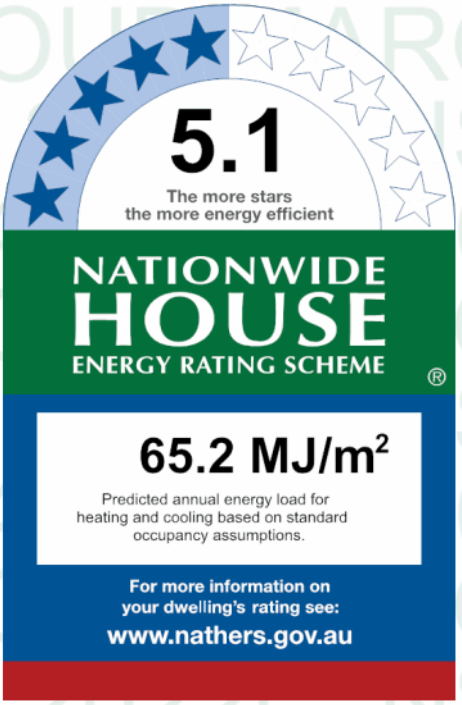
Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006207062-01

Generated on 12 Apr 2022 using BERS Pro v4.4.1.5 (3.21)



Property

Address	Unit 2, 417A Maroubra Rd , Maroubra , NSW , 2035
Lot/DP	A/440602
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision D
Prepared by	ArchiSpectrum

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	186.0	Suburban
Unconditioned*	31.0	**NatHERS climate zone**
Total	217.0	56
Garage	21.0	

Thermal performance

Heating	Cooling
39.7 MJ/m^2	25.5 MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=hYxllqIfF.
When using either link, ensure you are visiting hstar.com.au

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at www.abcb.gov.au.

State and territory variations and additions to the NCC may also apply.

* Refer to glossary.

Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

Has the appropriate exposure level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

Provisional* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

Additional notes

I have modeled the shading in accordance with NatHERS principles

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
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-004-03 A	ALM-004-03 A Aluminium B DG Air Fill High Solar Gain low-E -Clear	4.3	0.53	0.50	0.56
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

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*
FF WC	ALM-001-01 A	n/a	700	700	n/a	90	SW	No
FF WC	ALM-001-01 A	n/a	700	900	n/a	90	SW	No
Entry	ALM-002-01 A	n/a	2700	300	n/a	00	NW	No
Entry	ALM-002-01 A	n/a	2400	1000	n/a	00	NW	No
Ldry	ALM-002-01 A	n/a	2700	1000	n/a	45	SE	No
Kitchen/Living	ALM-004-03 A	n/a	2700	900	n/a	45	SW	No
Kitchen/Living	ALM-004-03 A	n/a	600	1200	n/a	45	NW	No
Kitchen/Living	ALM-004-03 A	n/a	2700	1000	n/a	45	SE	No
Kitchen/Living	ALM-004-03 A	n/a	900	2400	n/a	45	SW	No
Kitchen/Living	ALM-004-03 A	n/a	900	3000	n/a	60	SW	No
Family	ALM-002-03 A	n/a	2500	1000	n/a	00	NW	No
Family	ALM-002-03 A	n/a	2500	2400	n/a	45	SW	No
Family	ALM-002-03 A	n/a	1500	2400	n/a	45	NW	No
Bedroom 4	ALM-002-01 A	n/a	1500	2400	n/a	45	SW	No
Bedroom 4	ALM-002-01 A	n/a	1500	2400	n/a	45	SE	No
Bedroom 2	ALM-002-01 A	n/a	1500	2400	n/a	45	NW	No
Bedroom 3	ALM-002-01 A	n/a	1500	2400	n/a	45	SE	No
Study Nook	ALM-002-03 A	n/a	1600	2400	n/a	45	SW	No
Study Nook	ALM-002-03 A	n/a	2700	1000	n/a	30	NW	No
B1 Ens	ALM-002-01 A	n/a	800	2400	n/a	45	NW	No
Bedroom 1	ALM-002-01 A	n/a	1600	2400	n/a	45	SE	No
Bedroom 1	ALM-002-01 A	n/a	2600	3000	n/a	60	SW	No
B1 WIR	ALM-002-01 A	n/a	1600	900	n/a	00	SE	No

Roof window *type and performance*

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					

* Refer to glossary.

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
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2300	3200	90	NW
Entry	2400	1000	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Cavity Brick	0.30	Light	Foil Sided Bubble Wrap, Anti-glare one side	No
EW-2	Fibro Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap R2.5	No
EW-3	Cavity Brick	0.30	Light	Bulk Insulation R1.9	No
EW-4	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-5	Cavity Brick	0.30	Light	Bulk Insulation R1.9	No
EW-6	Cavity Brick	0.30	Light	Foil Sided Bubble Wrap, Anti-glare one side	No
EW-7	Fibro Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap 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)
FF WC	EW-1	2700	2990	SW	1200	NO
Garage	EW-2	2300	3345	NW	2800	YES
Garage	EW-3	2300	3345	SE	0	NO
Entry	EW-4	2700	400	SW	0	YES
Entry	EW-4	2700	2400	NW	900	NO
Entry	EW-5	2300	4600	NE	6100	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Ldry	EW-3	2750	1690	SE	0	NO
Kitchen/Living	EW-3	2750	1800	SW	700	YES
Kitchen/Living	EW-3	2750	3345	NW	0	YES
Kitchen/Living	EW-3	2750	5145	SE	0	NO
Kitchen/Living	EW-3	2750	8600	SW	800	NO
Kitchen/Living	EW-3	2750	1200	NW	938	YES
Family	EW-4	2700	2400	NW	0	NO
Family	EW-6	2700	1800	NE	0	YES
Family	EW-1	2700	4045	SW	1200	NO
Family	EW-1	2700	3400	NW	0	YES
Family	EW-4	2700	400	SW	0	YES
Bedroom 4	EW-1	2700	3145	SW	1200	NO
Bedroom 4	EW-1	2700	4645	SE	0	NO
Bedroom 2	EW-1	2700	3345	NW	0	YES
Bedroom 3	EW-6	2700	4445	SE	0	NO
Study Nook	EW-7	2700	1900	NE	3400	YES
Study Nook	EW-7	2700	1500	SE	4100	YES
Study Nook	EW-7	2700	4500	SW	200	NO
Study Nook	EW-2	2700	2600	NW	0	NO
Study Nook	EW-2	2700	300	NE	1200	YES
Study Nook	EW-2	2700	1200	NW	300	YES
B1 Ens	EW-7	2700	3395	NW	600	YES
Bedroom 1	EW-2	2700	4095	SE	300	NO
Bedroom 1	EW-7	2700	3795	SW	1700	YES
B1 WIR	EW-2	2700	1595	SE	300	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Single Skin Brick		140.00	No insulation
IW-2 - Cavity brick, plasterboard		55.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		32.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
FF WC/Kitchen/Living	Concrete Above Plasterboard 100mm	5.80		No Insulation	Ceramic Tiles 8mm
Garage	Concrete Slab on Ground 100mm	20.70	None	No Insulation	Bare

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Entry	Concrete Slab on Ground 100mm	14.80	None	No Insulation	Ceramic Tiles 8mm
GF WC	Concrete Slab on Ground 100mm	2.90	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 100mm	4.30	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 100mm	47.70	None	No Insulation	Ceramic Tiles 8mm
Family/Entry	Concrete Above Plasterboard 150mm	11.10		No Insulation	Carpet+Rubber Underlay 18mm
Family/Kitchen/Living	Concrete Above Plasterboard 150mm	13.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Ldry	Concrete Above Plasterboard 150mm	1.80		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Kitchen/Living	Concrete Above Plasterboard 150mm	12.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Garage	Concrete Above Plasterboard 150mm	7.90		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	9.30	Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Concrete Above Plasterboard 150mm	12.00		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/GF WC	Concrete Above Plasterboard 150mm	0.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Ldry	Concrete Above Plasterboard 150mm	2.80		No Insulation	Carpet+Rubber Underlay 18mm
Study Nook/Family	Concrete Above Plasterboard 150mm	14.40		No Insulation	Carpet+Rubber Underlay 18mm
Study Nook/WC	Concrete Above Plasterboard 150mm	1.10		No Insulation	Carpet+Rubber Underlay 18mm
Study Nook/Family	Concrete Above Plasterboard 150mm	1.00		No Insulation	Carpet+Rubber Underlay 18mm
B1 Ens/Bedroom 2	Concrete Above Plasterboard 150mm	7.60		No Insulation	Ceramic Tiles 8mm
Bedroom 1/Bedroom 4	Concrete Above Plasterboard 150mm	1.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Bedroom 2	Concrete Above Plasterboard 150mm	3.00		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Bedroom 3	Concrete Above Plasterboard 150mm	4.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Family	Concrete Above Plasterboard 150mm	5.90		No Insulation	Carpet+Rubber Underlay 18mm
WC/Kitchen/Living	Concrete Above Plasterboard 150mm	2.50		No Insulation	Ceramic Tiles 8mm
Family/Garage	Concrete Above Plasterboard 150mm	0.50		No Insulation	Carpet+Rubber Underlay 18mm
Family/Entry	Concrete Above Plasterboard 150mm	3.30		No Insulation	Carpet+Rubber Underlay 18mm
Family/GF WC	Concrete Above Plasterboard 150mm	2.00		No Insulation	Carpet+Rubber Underlay 18mm
Family/Kitchen/Living	Concrete Above Plasterboard 150mm	2.00		No Insulation	Carpet+Rubber Underlay 18mm
B1 WIR/Bedroom 2	Concrete Above Plasterboard 150mm	2.90		No Insulation	Carpet+Rubber Underlay 18mm
B1 WIR/Bedroom 3	Concrete Above Plasterboard 150mm	2.90		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
FF WC	Plasterboard	Bulk Insulation R3	No
Garage	Plasterboard	Bulk Insulation R3	No
Garage	Concrete Above Plasterboard	No Insulation	No
Entry	Plasterboard	Bulk Insulation R3	No
Entry	Concrete Above Plasterboard	No Insulation	No
GF WC	Plasterboard	Bulk Insulation R3	No
GF WC	Concrete Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Ldry	Plasterboard	Bulk Insulation R3	No
Ldry	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R3	No
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Family	Plasterboard	Bulk Insulation R3	No
Family	Concrete Above Plasterboard	No Insulation	No
Bedroom 4	Plasterboard	Bulk Insulation R3	No
Bedroom 4	Concrete Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R3	No
Bedroom 2	Concrete Above Plasterboard	No Insulation	No
Bedroom 3	Plasterboard	Bulk Insulation R3	No
Bedroom 3	Concrete Above Plasterboard	No Insulation	No
Study Nook	Plasterboard	Bulk Insulation R3	No
B1 Ens	Plasterboard	Bulk Insulation R3	No
Bedroom 1	Plasterboard	Bulk Insulation R3	No
WC	Plasterboard	Bulk Insulation R3	No
WC	Concrete Above Plasterboard	No Insulation	No
Family	Plasterboard	Bulk Insulation R3	No
Family	Concrete Above Plasterboard	No Insulation	No
B1 WIR	Plasterboard	Bulk Insulation R3	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
FF WC	4	Downlights - LED	150	Sealed
FF WC	1	Exhaust Fans	300	Sealed
Garage	8	Downlights - LED	150	Sealed
Entry	12	Downlights - LED	150	Sealed
GF WC	2	Downlights - LED	150	Sealed
GF WC	1	Exhaust Fans	300	Sealed
Ldry	4	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	300	Sealed
Kitchen/Living	20	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Family	10	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed
Study Nook	8	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
B1 Ens	6	Downlights - LED	150	Sealed
B1 Ens	1	Exhaust Fans	300	Sealed
Bedroom 1	6	Downlights - LED	150	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Family	4	Downlights - LED	150	Sealed
B1 WIR	4	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Family	1	1400

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	No Insulation, Only an Air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.30	Light

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings 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, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
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Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
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Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
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