

Nationwide House Energy Rating Scheme — Class 2 summary

NatHERS Certificate No. 0006950350

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

Address 1112-1118 Barrenjoey Rd,
Palm Beach , NSW , 2108

Lot/DP 21/571298

NatHERS climate zone 56

Accredited assessor



Dean Gorman

Greenview Consulting Pty Ltd

dean@greenview.net.au

8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National



Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=KrsPrEyIB. 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
0008876120	101	29.9	16.5	46.4	6.4
0008876161	102	20.5	14.8	35.3	7.3
0008876112	103	26.4	18.2	44.6	6.5
0008876146	201	33.7	25	58.7	5.4
0008876153	202	19.7	29.3	49	6.2

National Construction Code (NCC) requirements

Continued Over

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.

Summary of all dwellings (continued)

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
0008876138	203	18.1	24	42.2	6.7
0008876179	301	44.9	28.6	73.5	4.6
Average		27.6	22.34	49.96	6.16

Explanatory notes

About this report

This summary rating is the average rating of all NCC Class 2 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.

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, input and creation of the NatHERS Certificate is by the assessor. 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.

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0008876120

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Property

Address Unit 101, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 160.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 160.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

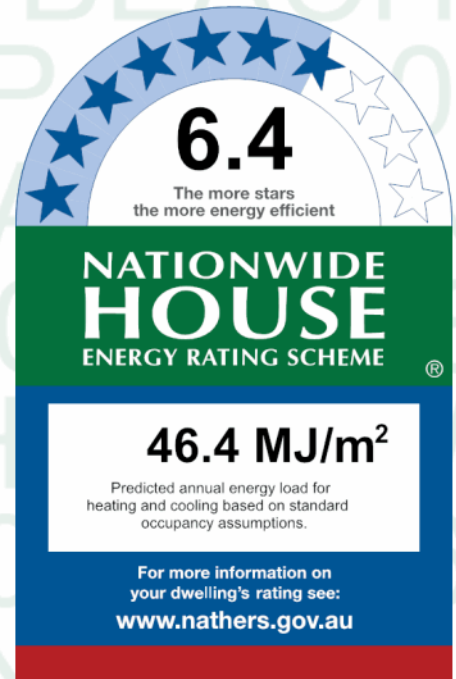
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
29.9	16.5
MJ/m ²	MJ/m ²

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

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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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	5000	n/a	20	S	Yes
Kitchen/Living	ALM-004-03 A	n/a	2900	8000	n/a	80	W	No
MB	ALM-004-03 A	n/a	2900	1500	n/a	22	S	Yes
MB	ALM-004-03 A	n/a	2900	2000	n/a	45	W	No
Bedroom 2	ALM-004-03 A	n/a	2900	3000	n/a	60	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	3000	n/a	60	E	No
ENS 1	ALM-004-03 A	n/a	2900	1100	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1100	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1100	n/a	00	E	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					

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
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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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5995	S	1700	YES
Kitchen/Living	EW-1	2900	8100	W	3500	NO
Kitchen/Living	EW-1	2900	5600	N	0	NO
MB	EW-1	2900	5995	S	100	NO
MB	EW-1	2900	2300	W	9500	YES
Bedroom 2	EW-1	2900	2995	E	200	NO
Bedroom 3	EW-1	2900	3090	E	200	NO
ENS 1	EW-1	2900	3595	E	200	NO
ENS 1	EW-1	2900	2995	S	100	NO
WIR	EW-1	2900	2590	S	100	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		160.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plaster on studs		37.00	No Insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	46.70	None	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living	Suspended Concrete Slab 200mm	19.10	Totally Open	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
MB	Suspended Concrete Slab 200mm	22.50	Open	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	4.60	None	No Insulation	Ceramic Tiles 8mm
LDY	Concrete Slab, Unit Below 200mm	-0.10	None	No Insulation	Ceramic Tiles 8mm
LDY	Suspended Concrete Slab 200mm	4.70	Totally Open	Bulk Insulation in Contact with Floor	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	9.00	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	12.20	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Suspended Concrete Slab 200mm	1.00	Totally Open	Bulk Insulation in Contact with Floor	Carpet+Rubber Underlay 18mm
ENS 1	Concrete Slab, Unit Below 200mm	10.50	None	No Insulation	Ceramic Tiles 8mm
WIR	Concrete Slab, Unit Below 200mm	4.90	None	No Insulation	Carpet+Rubber Underlay 18mm
WIR	Suspended Concrete Slab 200mm	4.00	Totally Open	Bulk Insulation in Contact with Floor	Carpet+Rubber Underlay 18mm
ENS 3	Concrete Slab, Unit Below 200mm	2.40	None	No Insulation	Ceramic Tiles 8mm
ENS 3	Suspended Concrete Slab 200mm	2.10	Totally Open	Bulk Insulation in Contact with Floor	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	8.00	None	No Insulation	Cork Tiles or Parquetry 8mm
Entry	Suspended Concrete Slab 200mm	2.90	Totally Open	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
WIR 2	Concrete Slab, Unit Below 200mm	5.70	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
MB	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
LDY	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
ENS 1	Concrete, Plasterboard	No insulation	No
WIR	Concrete, Plasterboard	No insulation	No
ENS 3	Concrete, Plasterboard	No insulation	No
Entry	Concrete, Plasterboard	No insulation	No
WIR 2	Concrete, Plasterboard	No insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	26	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
MB	9	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
ENS 1	4	Downlights - LED	150	Sealed
ENS 1	1	Exhaust Fans	300	Sealed
WIR	4	Downlights - LED	150	Sealed
ENS 3	1	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Entry	5	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

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

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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 operability 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. 0008876161

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Property

Address Unit 102, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 131.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 131.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

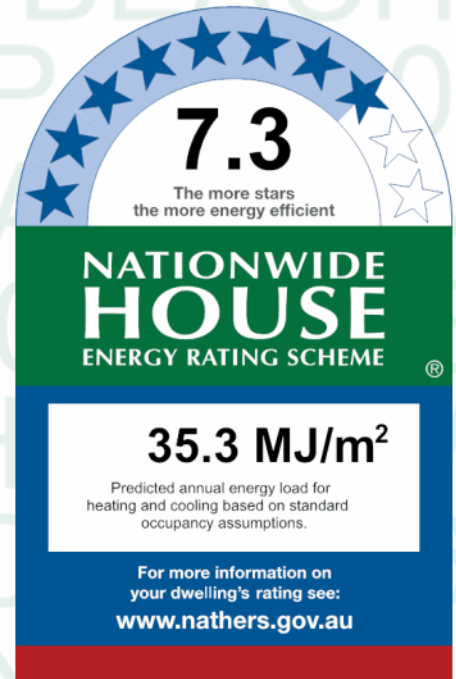
Declaration of interest Declaration completed: no conflicts

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Thermal performance

Heating	Cooling
20.5	14.8
MJ/m ²	MJ/m ²

About the rating

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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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	5800	n/a	60	W	No
Kitchen/Living	ALM-004-03 A	n/a	2900	1800	n/a	22	N	Yes
Kitchen/Living	ALM-004-03 A	n/a	2900	900	n/a	00	N	Yes
Bedroom 3	ALM-004-03 A	n/a	2900	3000	n/a	60	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	3000	n/a	60	E	No
MB	ALM-004-03 A	n/a	2900	3600	n/a	60	W	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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5795	W	3500	NO
Kitchen/Living	EW-1	2900	5600	N	200	NO
Bedroom 3	EW-1	2900	3095	E	200	NO
Bedroom 2	EW-1	2900	3095	E	200	NO
MB	EW-1	2900	4295	S	100	NO
MB	EW-1	2900	3800	W	3500	NO
ENS Master	EW-1	2900	1295	S	100	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plaster on studs		83.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		157.00	No insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	46.10	None	No Insulation	Cork Tiles or Parquetry 8mm
LDY	Concrete Slab, Unit Below 200mm	4.90	None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	4.10	None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab, Unit Below 200mm	13.70	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.20	None	No Insulation	Carpet+Rubber Underlay 18mm
WIR 2	Concrete Slab, Unit Below 200mm	4.00	None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	10.80	None	No Insulation	Cork Tiles or Parquetry 8mm
Pantry	Concrete Slab, Unit Below 200mm	5.70	None	No Insulation	Cork Tiles or Parquetry 8mm
MB	Concrete Slab, Unit Below 200mm	15.30	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS Master	Concrete Slab, Unit Below 200mm	7.30	None	No Insulation	Ceramic Tiles 8mm
STO	Concrete Slab, Unit Below 200mm	2.20	None	No Insulation	Cork Tiles or Parquetry 8mm
ENS 3	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Cork Tiles or Parquetry 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
LDY	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
WIR 2	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Pantry	Concrete, Plasterboard	No insulation	No
MB	Concrete, Plasterboard	No insulation	No
ENS Master	Concrete, Plasterboard	No insulation	No
STO	Concrete, Plasterboard	No insulation	No
ENS 3	Concrete, Plasterboard	No insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	18	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bath	1	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
WIR 2	1	Downlights - LED	150	Sealed
Kitchen/Living	5	Downlights - LED	150	Sealed
Pantry	2	Downlights - LED	150	Sealed
MB	6	Downlights - LED	150	Sealed
ENS Master	2	Downlights - LED	150	Sealed
ENS Master	1	Exhaust Fans	300	Sealed
STO	1	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

Explanatory notes

About this report

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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.

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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 operability 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. 0008876112

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

Address Unit 103, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 162.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 162.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

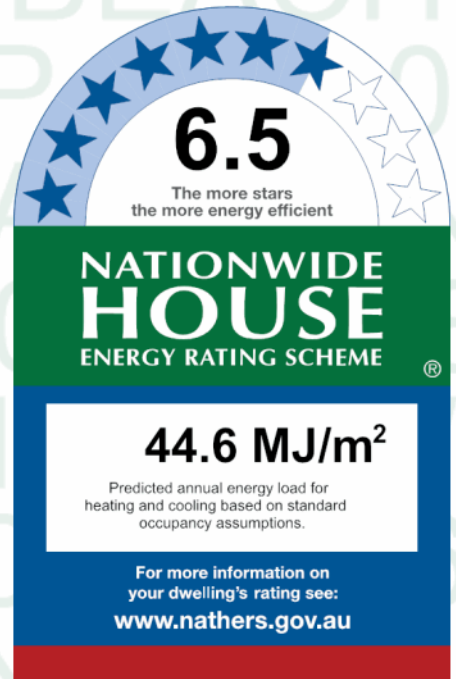
Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

Declaration of interest Declaration completed: no conflicts



Thermal performance

Heating	Cooling
26.4	18.2
MJ/m ²	MJ/m ²

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=aOAdPYxGh. 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.

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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	7700	n/a	80	W	No
Kitchen/Living	ALM-004-03 A	n/a	2900	5000	n/a	10	N	Yes
MB	ALM-004-03 A	n/a	2900	2000	n/a	45	W	No
MB	ALM-004-03 A	n/a	2900	1500	n/a	10	N	Yes
Bedroom 2	ALM-004-03 A	n/a	2900	3400	n/a	60	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	3000	n/a	60	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	00	E	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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5600	S	175	NO
Kitchen/Living	EW-1	2900	8000	W	3500	NO
Kitchen/Living	EW-1	2900	5995	N	1400	YES
MB	EW-1	2900	2400	W	9500	YES
MB	EW-1	2900	5995	N	100	NO
Bedroom 2	EW-1	2900	3695	E	300	NO
Bedroom 3	EW-1	2900	3090	E	300	NO
ENS 1	EW-1	2900	2995	N	100	NO
ENS 1	EW-1	2900	3595	E	300	NO
WIR	EW-1	2900	2590	N	100	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plaster on studs		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		163.00	No insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	61.00	None	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living	Suspended Concrete Slab 200mm	4.20	Totally Open	No Insulation	Cork Tiles or Parquetry 8mm
MB	Concrete Slab, Unit Below 200mm	8.70	None	No Insulation	Carpet+Rubber Underlay 18mm
MB	Suspended Concrete Slab 200mm	13.60	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
PWD	Concrete Slab, Unit Below 200mm	4.80	None	No Insulation	Ceramic Tiles 8mm
LDY	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	14.70	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	13.30	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS 1	Concrete Slab, Unit Below 200mm	9.70	None	No Insulation	Ceramic Tiles 8mm
ENS 1	Suspended Concrete Slab 200mm	0.80	Totally Open	No Insulation	Ceramic Tiles 8mm
WIR	Concrete Slab, Unit Below 200mm	1.40	None	No Insulation	Carpet+Rubber Underlay 18mm
WIR	Suspended Concrete Slab 200mm	5.50	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
ENS 3	Concrete Slab, Unit Below 200mm	3.80	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	11.10	None	No Insulation	Cork Tiles or Parquetry 8mm
ENS 2	Concrete Slab, Unit Below 200mm	4.70	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
MB	Concrete, Plasterboard	No insulation	No
PWD	Concrete, Plasterboard	No insulation	No
LDY	Concrete, Plasterboard	No insulation	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
ENS 1	Concrete, Plasterboard	No insulation	No
WIR	Concrete, Plasterboard	No insulation	No
ENS 3	Concrete, Plasterboard	No insulation	No
Entry	Concrete, Plasterboard	No insulation	No
ENS 2	Concrete, Plasterboard	No insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	25	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
MB	7	Downlights - LED	150	Sealed
PWD	2	Downlights - LED	150	Sealed
PWD	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
ENS 1	4	Downlights - LED	150	Sealed
ENS 1	1	Exhaust Fans	300	Sealed
WIR	4	Downlights - LED	150	Sealed
ENS 3	1	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed
Entry	5	Downlights - LED	150	Sealed
ENS 2	1	Downlights - LED	150	Sealed
ENS 2	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

Explanatory notes

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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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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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Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0008876146

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

Address Unit 201, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 161.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 161.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

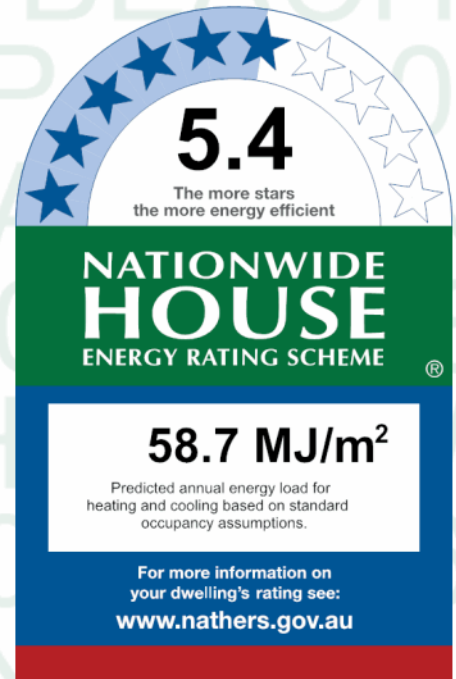
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
33.7	25.0
MJ/m ²	MJ/m ²

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=DnyOlseNv. When using either link, ensure you are visiting hstar.com.au



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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	5000	n/a	10	S	Yes
Kitchen/Living	ALM-004-03 A	n/a	2900	8000	n/a	80	W	No
MB	ALM-004-03 A	n/a	2900	1500	n/a	10	S	Yes
MB	ALM-004-03 A	n/a	2900	2000	n/a	10	W	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	22	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	00	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	22	E	No
ENS 1	ALM-004-03 A	n/a	2900	1160	n/a	00	E	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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5995	S	1300	YES
Kitchen/Living	EW-1	2900	8100	W	1900	NO
Kitchen/Living	EW-1	2900	5600	N	100	NO
MB	EW-1	2900	5995	S	175	NO
MB	EW-1	2900	2300	W	7900	YES
Bedroom 2	EW-1	2900	3095	E	1800	NO
Bedroom 3	EW-1	2900	3090	E	1800	NO
ENS 1	EW-1	2900	3595	E	1800	NO
ENS 1	EW-1	2900	2995	S	125	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
WIR	EW-1	2900	2590	S	150	NO
WIR	EW-1	2900	2490	N	700	YES

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		161.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plaster on studs		29.00	No Insulation

Floor type

Location	Construction	Area Sub-floor (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	65.80	None	No Insulation	Cork Tiles or Parquetry 8mm
MB	Concrete Slab, Unit Below 200mm	22.50	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	4.80	None	No Insulation	Ceramic Tiles 8mm
LDY	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	9.30	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	13.50	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS 1	Concrete Slab, Unit Below 200mm	10.50	None	No Insulation	Ceramic Tiles 8mm
WIR	Concrete Slab, Unit Below 200mm	8.90	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS 3	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	10.90	None	No Insulation	Cork Tiles or Parquetry 8mm
WIR	Concrete Slab, Unit Below 200mm	5.70	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2.5	No
MB	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bath	Concrete, Plasterboard	Bulk Insulation R2.5	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
LDY	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
ENS 1	Concrete, Plasterboard	No insulation	No
WIR	Concrete, Plasterboard	No insulation	No
ENS 3	Concrete, Plasterboard	No insulation	No
Entry	Concrete, Plasterboard	Bulk Insulation R2.5	No
WIR	Concrete, Plasterboard	No insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	25	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
MB	8	Downlights - LED	150	Sealed
Bath	1	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
ENS 1	4	Downlights - LED	150	Sealed
ENS 1	1	Exhaust Fans	300	Sealed
WIR	4	Downlights - LED	150	Sealed
ENS 3	1	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed
Entry	5	Downlights - LED	150	Sealed
WIR	2	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium

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.
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. 0008876153

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

Address Unit 202, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 124.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 124.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

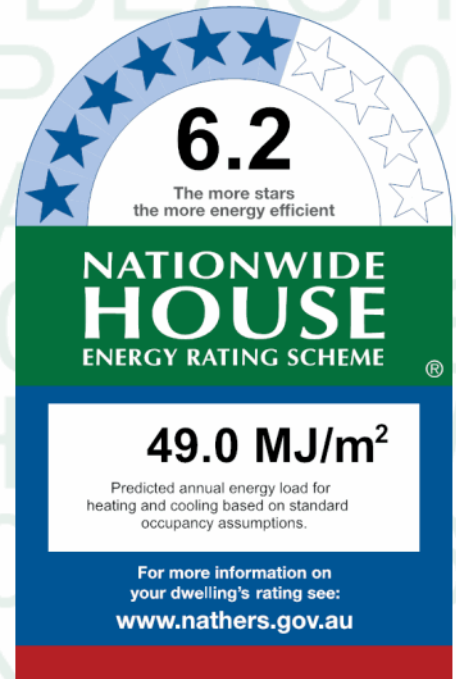
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
19.7	29.3
MJ/m ²	MJ/m ²

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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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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	5800	n/a	60	W	No
Kitchen/Living	ALM-004-03 A	n/a	2900	2700	n/a	10	N	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	22	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1000	n/a	00	E	No
MB	ALM-004-03 A	n/a	2900	3600	n/a	45	W	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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5795	W	1800	NO
Kitchen/Living	EW-1	2900	5500	N	175	NO
Bedroom 3	EW-1	2900	2995	E	1800	NO
Bedroom 2	EW-1	2900	3095	E	1800	NO
MB	EW-1	2900	4195	S	100	NO
MB	EW-1	2900	3795	W	1800	NO
ENS Master	EW-1	2900	1295	S	100	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plaster on studs		88.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		132.00	No insulation

Floor type

Location	Construction	Area Sub-floor ventilation (m ²)	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	45.60 None	No Insulation	Cork Tiles or Parquetry 8mm
LDY	Concrete Slab, Unit Below 200mm	4.40 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab, Unit Below 200mm	14.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.20 None	No Insulation	Carpet+Rubber Underlay 18mm
WIR 2	Concrete Slab, Unit Below 200mm	4.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	10.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Pantry	Concrete Slab, Unit Below 200mm	5.70 None	No Insulation	Cork Tiles or Parquetry 8mm
MB	Concrete Slab, Unit Below 200mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm
ENS Master	Concrete Slab, Unit Below 200mm	7.30 None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2.5	No
LDY	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bath	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
WIR 2	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2.5	No
Pantry	Concrete, Plasterboard	Bulk Insulation R2.5	No
MB	Concrete, Plasterboard	Bulk Insulation R2.5	No
ENS Master	Concrete, Plasterboard	Bulk Insulation R2.5	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	20	Downlights - LED	150	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bath	1	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
WIR 2	1	Downlights - LED	150	Sealed
Kitchen/Living	5	Downlights - LED	150	Sealed
Pantry	2	Downlights - LED	150	Sealed
MB	6	Downlights - LED	150	Sealed
ENS Master	2	Downlights - LED	150	Sealed
ENS Master	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium

Explanatory notes

About this report

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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.

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Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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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.
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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. 0008876138

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

Address Unit 203, 1112-1118 Barrenjoey Rd,
Palm Beach, NSW, 2108

Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 163.0	Suburban
Unconditioned* 0.0	NatHERS climate zone
Total 163.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

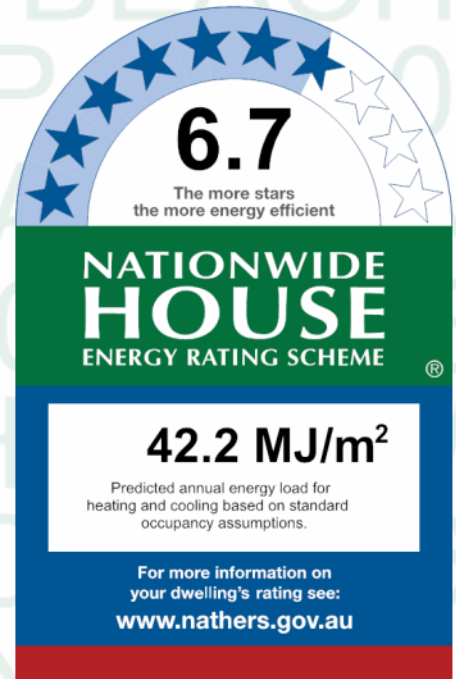
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
18.1	24.0
MJ/m ²	MJ/m ²

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=ROVvjXRWj. When using either link, ensure you are visiting hstar.com.au



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-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

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*
Kitchen/Living	ALM-004-03 A	n/a	2900	6400	n/a	75	W	No
Kitchen/Living	ALM-004-03 A	n/a	2900	1350	n/a	00	W	No
Kitchen/Living	ALM-004-03 A	n/a	2900	5000	n/a	10	N	Yes
MB	ALM-004-03 A	n/a	2900	2000	n/a	10	W	No
MB	ALM-004-03 A	n/a	2900	1500	n/a	10	N	Yes
Bedroom 2	ALM-004-03 A	n/a	2900	1100	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1100	n/a	10	E	No
Bedroom 2	ALM-004-03 A	n/a	2900	1100	n/a	22	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	10	E	No
Bedroom 3	ALM-004-03 A	n/a	2900	1000	n/a	00	E	No
ENS Master	ALM-004-03 A	n/a	2900	1130	n/a	22	E	No
ENS Master	ALM-004-03 A	n/a	2900	1130	n/a	22	E	No
ENS Master	ALM-004-03 A	n/a	2900	1130	n/a	00	E	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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2900	5600	S	100	NO
Kitchen/Living	EW-1	2900	8200	W	1700	NO
Kitchen/Living	EW-1	2900	5995	N	1100	YES
MB	EW-1	2900	2200	W	700	YES
MB	EW-1	2900	5995	N	175	NO
Bedroom 2	EW-1	2900	3595	E	1800	NO
Bedroom 3	EW-1	2900	3290	E	1800	NO
ENS Master	EW-1	2900	3095	N	125	NO
ENS Master	EW-1	2900	3395	E	1800	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
WIR Master	EW-1	2900	2490	N	150	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plaster on studs		38.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		163.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²)	Added insulation ventilation (R-value)	Covering	
Kitchen/Living	Concrete Slab, Unit Below 200mm	66.40	None	No Insulation	Cork Tiles or Parquetry 8mm
MB	Concrete Slab, Unit Below 200mm	22.50	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Ceramic Tiles 8mm
LDY	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	14.90	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	13.60	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS Master	Concrete Slab, Unit Below 200mm	10.20	None	No Insulation	Ceramic Tiles 8mm
WIR Master	Concrete Slab, Unit Below 200mm	6.90	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS 3	Concrete Slab, Unit Below 200mm	3.60	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	11.30	None	No Insulation	Cork Tiles or Parquetry 8mm
ENS 2	Concrete Slab, Unit Below 200mm	4.70	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2.5	No
MB	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bath	Concrete, Plasterboard	Bulk Insulation R2.5	No
LDY	Concrete, Plasterboard	Bulk Insulation R2.5	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
ENS Master	Concrete, Plasterboard	No insulation	No
WIR Master	Concrete, Plasterboard	No insulation	No
ENS 3	Concrete, Plasterboard	No insulation	No
Entry	Concrete, Plasterboard	Bulk Insulation R2.5	No
ENS 2	Concrete, Plasterboard	No insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	26	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
MB	9	Downlights - LED	150	Sealed
Bath	1	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
LDY	1	Downlights - LED	150	Sealed
LDY	1	Exhaust Fans	300	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
Bedroom 3	5	Downlights - LED	150	Sealed
ENS Master	3	Downlights - LED	150	Sealed
ENS Master	1	Exhaust Fans	300	Sealed
WIR Master	3	Downlights - LED	150	Sealed
ENS 3	1	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed
Entry	5	Downlights - LED	150	Sealed
ENS 2	2	Downlights - LED	150	Sealed
ENS 2	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium

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.

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Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0008876179

Generated on 05 Sep 2023 using BERS Pro v4.4.1.5d (3.21)

Property

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Lot/DP 21/571298

NCC Class* 2

Type New Dwelling

Plans

Main plan A0000-0500

Prepared by Koichi Takada Architects

Construction and environment

Assessed floor area (m ²)*	Exposure type
Conditioned* 316.0	Open
Unconditioned* 3.0	NatHERS climate zone
Total 320.0	56
Garage 0.0	



Accredited assessor

Name Dean Gorman

Business name Greenview Consulting Pty Ltd

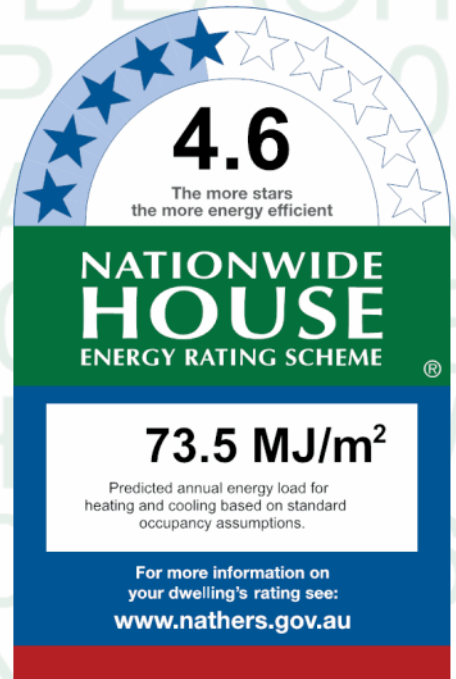
Email dean@greenview.net.au

Phone 8544 1683

Accreditation No. DMN/13/1645

Assessor Accrediting Organisation Design Matters National

Declaration of interest Declaration completed: no conflicts



Thermal performance

Heating	Cooling
44.9	28.6
MJ/m ²	MJ/m ²

About the rating

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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-006-03 A	ALM-006-03 A Aluminium B DG Argon Fill High Solar Gain low- E -Clear	4.1	0.52	0.49	0.55

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*
MB	ALM-006-03 A	n/a	2700	1100	n/a	00	E	Yes
MB	ALM-006-03 A	n/a	2700	4900	n/a	60	W	Yes
Bedroom 2	ALM-006-03 A	n/a	2700	3300	n/a	45	W	Yes
ENS 1	ALM-006-03 A	n/a	2700	2650	n/a	22	E	Yes
ENS 2	ALM-006-03 A	n/a	2700	2500	n/a	00	W	No
Kitchen/Living	ALM-006-03 A	n/a	2700	2900	n/a	22	E	No
Kitchen/Living	ALM-006-03 A	n/a	2700	2900	n/a	00	E	No
Kitchen/Living	ALM-006-03 A	n/a	2700	9100	n/a	75	W	Yes
Entry	ALM-006-03 A	n/a	2700	3500	n/a	45	W	Yes
WIP	ALM-006-03 A	n/a	2700	1100	n/a	22	E	Yes
Corridor L2	ALM-006-03 A	n/a	2700	2350	n/a	22	E	No
Corridor L2	ALM-006-03 A	n/a	2700	2350	n/a	00	E	No
Living	ALM-006-03 A	n/a	2700	2900	n/a	00	E	No
Living	ALM-006-03 A	n/a	2700	2900	n/a	22	E	No
Living	ALM-006-03 A	n/a	2700	1100	n/a	22	E	Yes
Living	ALM-006-03 A	n/a	2700	8700	n/a	80	W	Yes
Bedroom 3	ALM-006-03 A	n/a	2700	1300	n/a	10	E	Yes
Bedroom 3	ALM-006-03 A	n/a	2700	1100	n/a	10	E	Yes
Bedroom 3	ALM-006-03 A	n/a	2700	3350	n/a	80	W	Yes
WIR 3	ALM-006-03 A	n/a	2700	1100	n/a	00	W	No
ENS 3	ALM-006-03 A	n/a	2700	1450	n/a	00	W	Yes
Study	ALM-006-03 A	n/a	2700	3300	n/a	45	W	Yes
PWR	ALM-006-03 A	n/a	2700	1350	n/a	00	W	No
Corridor L4	ALM-006-03 A	n/a	2700	2350	n/a	00	E	No
Corridor L4	ALM-006-03 A	n/a	2700	2350	n/a	22	E	No
Corridor L4	ALM-006-03 A	n/a	2700	4700	n/a	00	W	Yes

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					

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
No Data Available				

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	Bulk Insulation R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
MB	EW-1	2900	1790	E	400	NO
MB	EW-1	2900	4695	S	300	NO
MB	EW-1	2900	6095	W	600	NO
Bedroom 2	EW-1	2900	4290	W	600	NO
ENS 1	EW-1	2900	4295	E	400	NO
ENS 1	EW-1	2900	3295	S	300	NO
ENS 2	EW-1	2900	2695	W	600	NO
ENS 2	EW-1	2900	700	N	0	NO
Kitchen/Living	EW-1	2900	7390	E	400	NO
Kitchen/Living	EW-1	2900	10250	W	1500	NO
Kitchen/Living	EW-1	2900	5195	N	300	NO
Entry	EW-1	2900	3550	W	1500	NO
WIP	EW-1	2900	2895	E	400	NO
WIP	EW-1	2900	1895	N	300	NO
Corridor L2	EW-1	2900	17390	E	400	NO
Living	EW-1	2900	10295	E	400	NO
Living	EW-1	2900	10300	W	1000	NO
Living	EW-1	2900	4300	N	300	NO
Bedroom 3	EW-1	2900	8195	E	400	NO
Bedroom 3	EW-1	2900	3700	S	300	NO
Bedroom 3	EW-1	2900	3895	W	1600	NO
WIR 3	EW-1	2900	2490	W	1600	NO
ENS 3	EW-1	2900	1790	W	1600	NO
Study	EW-1	2900	4095	W	1600	NO
PWR	EW-1	2900	1395	W	1600	NO
Corridor L4	EW-1	2900	15290	E	400	NO
Corridor L4	EW-1	2900	4795	W	1600	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		233.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plaster on studs		132.00	No Insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
MB	Concrete Slab, Unit Below 200mm	25.90	None	No Insulation	Carpet+Rubber Underlay 18mm
MB	Suspended Concrete Slab 200mm	3.00	Totally Open	Bulk Insulation in Contact with Floor	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	17.60	None	No Insulation	Carpet+Rubber Underlay 18mm
ENS 1	Concrete Slab, Unit Below 200mm	7.50	None	No Insulation	Ceramic Tiles 8mm
ENS 1	Suspended Concrete Slab 200mm	6.30	Totally Open	Bulk Insulation in Contact with Floor	Ceramic Tiles 8mm
WIR	Concrete Slab, Unit Below 200mm	4.50	None	No Insulation	Carpet+Rubber Underlay 18mm
LDRY	Concrete Slab, Unit Below 200mm	5.10	None	No Insulation	Ceramic Tiles 8mm
ENS 2	Concrete Slab, Unit Below 200mm	10.80	None	No Insulation	Ceramic Tiles 8mm
PWD	Concrete Slab, Unit Below 200mm	3.10	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	57.60	None	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living	Suspended Concrete Slab 200mm	9.60	Totally Open	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
Entry	Concrete Slab, Unit Below 200mm	8.20	None	No Insulation	Cork Tiles or Parquetry 8mm
WIP	Concrete Slab, Unit Below 200mm	1.60	None	No Insulation	Cork Tiles or Parquetry 8mm
WIP	Suspended Concrete Slab 200mm	3.70	Totally Open	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
Corridor L2	Concrete Slab, Unit Below 200mm	15.00	None	No Insulation	Cork Tiles or Parquetry 8mm
Corridor L2	Suspended Concrete Slab 200mm	20.10	Totally Open	Bulk Insulation in Contact with Floor	Cork Tiles or Parquetry 8mm
Living/Kitchen/Living	Concrete Above Plasterboard 200mm	38.70		No Insulation	Cork Tiles or Parquetry 8mm

Location	Construction	Area Sub-floor ventilation (m ²)	Added insulation (R-value)	Covering
Living/WIP	Concrete Above Plasterboard 200mm	5.50	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3/MB	Concrete Above Plasterboard 200mm	2.70	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/ENS 1	Concrete Above Plasterboard 200mm	13.10	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/WIR	Concrete Above Plasterboard 200mm	0.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Corridor L2	Concrete Above Plasterboard 200mm	2.50	No Insulation	Carpet+Rubber Underlay 18mm
WIR 3/MB	Concrete Above Plasterboard 200mm	4.30	No Insulation	Carpet+Rubber Underlay 18mm
WIR 3/ENS 1	Concrete Above Plasterboard 200mm	0.80	No Insulation	Carpet+Rubber Underlay 18mm
WIR 3/LDRY	Concrete Above Plasterboard 200mm	0.70	No Insulation	Carpet+Rubber Underlay 18mm
ENS 3/LDRY	Concrete Above Plasterboard 200mm	3.90	No Insulation	Ceramic Tiles 8mm
Study/Corridor L2	Concrete Above Plasterboard 200mm	1.00	No Insulation	Cork Tiles or Parquetry 8mm
Study/Storage	Concrete Above Plasterboard 200mm	5.60	No Insulation	Cork Tiles or Parquetry 8mm
Study	Concrete Slab, Unit Below 200mm	3.30 None	No Insulation	Cork Tiles or Parquetry 8mm
PWR/Bedroom 2	Concrete Above Plasterboard 200mm	2.80	No Insulation	Cork Tiles or Parquetry 8mm
Corridor L4/Corridor L2	Concrete Above Plasterboard 200mm	30.30	No Insulation	Cork Tiles or Parquetry 8mm
Storage	Concrete Slab, Unit Below 200mm	10.70 None	No Insulation	Cork Tiles or Parquetry 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
MB	Concrete, Plasterboard	Bulk Insulation R3.5	No
MB	Concrete Above Plasterboard	No Insulation	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Concrete Above Plasterboard	No Insulation	No
ENS 1	Concrete, Plasterboard	No insulation	No
ENS 1	Concrete Above Plasterboard	No Insulation	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
WIR	Concrete, Plasterboard	Bulk Insulation R3.5	No
WIR	Concrete Above Plasterboard	No Insulation	No
LDRY	Concrete, Plasterboard	Bulk Insulation R3.5	No
LDRY	Concrete Above Plasterboard	No Insulation	No
ENS 2	Concrete, Plasterboard	Bulk Insulation R3.5	No
PWD	Concrete, Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Entry	Concrete, Plasterboard	Bulk Insulation R3.5	No
WIP	Concrete, Plasterboard	No insulation	No
WIP	Concrete Above Plasterboard	No Insulation	No
Corridor L2	Concrete, Plasterboard	No insulation	No
Corridor L2	Concrete Above Plasterboard	No Insulation	No
Living	Concrete, Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Concrete, Plasterboard	Bulk Insulation R3.5	No
WIR 3	Concrete, Plasterboard	Bulk Insulation R3.5	No
ENS 3	Concrete, Plasterboard	Bulk Insulation R3.5	No
Study	Concrete, Plasterboard	Bulk Insulation R3.5	No
PWR	Concrete, Plasterboard	Bulk Insulation R3.5	No
Corridor L4	Concrete, Plasterboard	Bulk Insulation R3.5	No
Storage	Concrete, Plasterboard	Bulk Insulation R3.5	No
Storage	Concrete Above Plasterboard	No Insulation	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
MB	11	Downlights - LED	150	Sealed
Bedroom 2	7	Downlights - LED	150	Sealed
ENS 1	5	Downlights - LED	150	Sealed
ENS 1	1	Exhaust Fans	300	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
WIR	1	Downlights - LED	150	Sealed
LDRY	2	Downlights - LED	150	Sealed
LDRY	1	Exhaust Fans	300	Sealed
ENS 2	4	Downlights - LED	150	Sealed
ENS 2	1	Exhaust Fans	300	Sealed
PWD	1	Downlights - LED	150	Sealed
PWD	1	Exhaust Fans	300	Sealed
Kitchen/Living	26	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Entry	2	Downlights - LED	150	Sealed
WIP	1	Downlights - LED	150	Sealed
Corridor L2	13	Downlights - LED	150	Sealed
Living	17	Downlights - LED	150	Sealed
Living	1	Exhaust Fans	300	Sealed
Bedroom 3	7	Downlights - LED	150	Sealed
WIR 3	2	Downlights - LED	150	Sealed
ENS 3	1	Downlights - LED	150	Sealed
ENS 3	1	Exhaust Fans	300	Sealed
Study	4	Downlights - LED	150	Sealed
PWR	1	Downlights - LED	150	Sealed
PWR	1	Exhaust Fans	300	Sealed
Corridor L4	11	Downlights - LED	150	Sealed
Storage	4	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
MB	1	1200
Bedroom 2	1	1200
Kitchen/Living	1	1200

Location	Quantity	Diameter (mm)
Living	1	1200
Bedroom 3	1	1200

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium

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) licenced 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.
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).