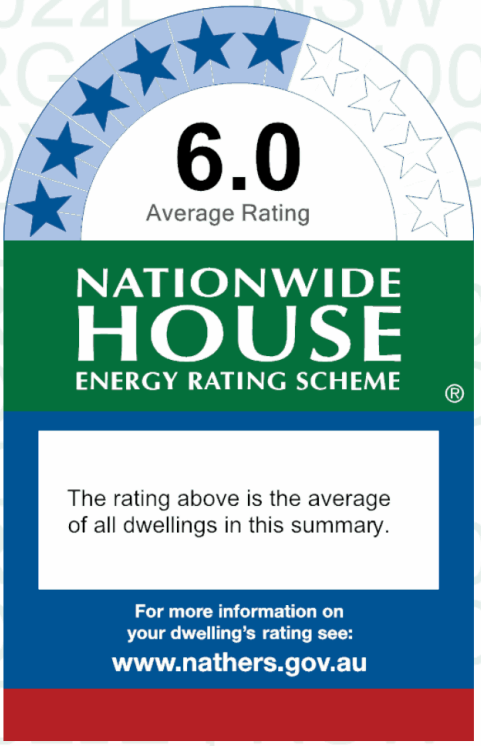
Nationwide House Energy Rating Scheme — Class 2 summary
NatHERS Certificate No. 0005444000

Generated on 18 Jan 2022 using AccuRate Sustainability V2.4.3.21



Property

Address 76B St Georges Crescent , Drummoyne , NSW , 2047

Lot/DP Lot 2 DP 11056

NatHERS climate zone 56

Accredited assessor

Brian Teplicanec

Thermal Certificates

brianteplicanec@gmail.com

0407 929 659

Accreditation No. 100588

Assessor Accrediting Organisation ABSA

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=NvriMHtNH . 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
0006980650	1.01	22.45	13.06	35.51	7.2
0006980635	2.01	43.53	16.34	59.88	5.4
0006980668	G.01	45.31	14.78	60.09	5.4
Average		37.10	14.73	51.83	6

National Construction Code (NCC) requirements

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

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

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

Explanatory Notes

About this report

This 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.

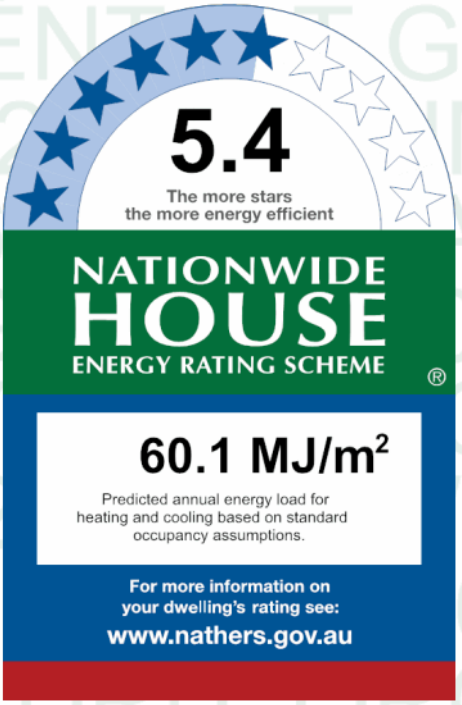
Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

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. 0006980668

Generated on 18 Jan 2022 using AccuRate Sustainability V2.4.3.21



Property

Address	Unit G.01, 76B St Georges Crescent , Drummoyne , NSW , 2047
Lot/DP	Lot 2 DP 11056
NCC Class*	2
Type	New Home

Plans

Main Plan	17.12.21
Prepared by	PBD Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	238.7	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	238.7	56
Garage		

Thermal performance

Heating	Cooling
45.3 MJ/m^2	14.8 MJ/m^2

Accredited assessor

Name	Brian Teplicanec
Business name	Thermal Certificates
Email	brianteplicanec@gmail.com
Phone	0407 929 659
Accreditation No.	100588

Assessor Accrediting Organisation

ABSA

Declaration of interest No potential conflicts of interest to declare

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=NzonNEweb.
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?

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

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

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*
ensuite master	ALM-001-01 A	Ensuite	1950	1200	Awning	45	SE	None
master	ALM-002-01 A	master	2700	2100	Sliding	45	NE	None
family	ALM-001-01 A	family	1950	1050	Awning	45	SE	None
kit/liv	ALM-001-01 A	Living	2250	1000	Other	00	SE	None
kit/liv	ALM-002-01 A	Living	2700	7850	Sliding	45	NE	None
kit/liv	ALM-002-01 A	living	2250	1000	Sliding	45	NW	Miniature Louvres
bed 2	ALM-001-01 A	bed 2	1950	1080	Awning	90	NE	None
bed 3	ALM-002-01 A	bed 3	2250	1000	Sliding	45	NW	Miniature Louvres
bed 3	ALM-002-01 A	Bed 3	1950	2100	Sliding	45	SW	None

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								

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
hall	2400	800	100	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-002	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-003	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
ensuite master	EW-002	2700	2450	SE		No
master	EW-002	2700	4250	SE		No
master	EW-002	2700	2100	NE		No
family	EW-003	2700	1850	S		No
family	EW-003	2700	1050	SE		No
kit/liv	EW-003	2700	7300	SE		No
kit/liv	EW-003	2700	8800	NE	3450	Yes
kit/liv	EW-003	2700	10000	NW	1350	Yes
cellar	EW-003	2700	1550	NW	1350	Yes
bed 2	EW-001	2700	1080	NE	2500	Yes
bed 2	EW-001	2700	4050	NW		No
wir b2	EW-001	2700	1600	NW		No
bed 3	EW-001	2700	3950	NW		No
bed 3	EW-001	2700	3850	SW	1000	Yes
ensuite b3	EW-001	2700	2150	SW	1000	Yes
wir master	EW-002	2700	2200	SE		No
hall	EW-001	2700	2500	NW	2100	Yes
pantry	EW-003	2700	1600	SE		No
ensuite b2	EW-001	2700	1750	NW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	195.62	
IW-002	Plasterboard/Concrete wall	61.02	

* Refer to glossary.

Wall ID	Wall type	Area (m)	Bulk insulation
IW-003	Glass	13.37	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
ensuite master/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	11.80		R1.0	Ceramic tile
master/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	25.50		R1.5	Carpet 10 + felt underlay 10
family/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	12.30		R1.5	Carpet 10 + felt underlay 10
laundry/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	3.70		R1.0	Ceramic tile
kit/liv/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	79.70		R1.0	Ceramic tile
cellar/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	5.60		R1.0	Ceramic tile
bed 2/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	17.20		R1.5	Carpet 10 + felt underlay 10
wir b2/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	4.10		R1.5	Carpet 10 + felt underlay 10
bed 3/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	17.00		R1.5	Carpet 10 + felt underlay 10
ensuite b3/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	6.10		R1.0	Ceramic tile
wir b3/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	3.00		R1.5	Carpet 10 + felt underlay 10
wir master/Outdoor Air	Concrete Slab 450 mm: carpet/bare + R1.0	7.80		R1.5	Carpet 10 + felt underlay 10
powder/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	2.10		R1.0	Ceramic tile
hall/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	34.30		R1.0	Ceramic tile
pantry/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	3.80		R1.0	Ceramic tile
ensuite b2/Outdoor Air	Concrete Slab 450 mm: ceramic tiles/bare + R1.0	4.70		R1.0	Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/ensuite master	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/master	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/family	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/laundry	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/kit/liv	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/cellar	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/bed 2	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/wir b2	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/bed 3	Concrete Slab 200 mm: carpet/bare + airgap		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/ensuite b3	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/wir b3	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/wir master	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/powder	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/hall	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/pantry	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/ensuite b2	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
No Data Available				

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
No Data Available			

* Refer to glossary.

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.

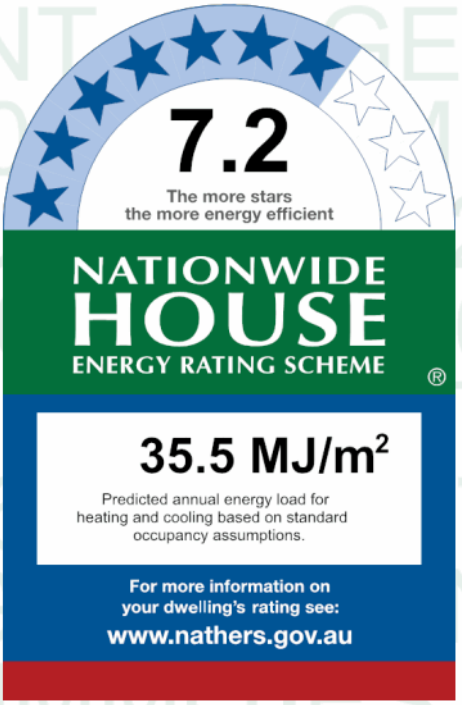
Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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. 0006980650

Generated on 18 Jan 2022 using AccuRate Sustainability V2.4.3.21



Property

Address	Unit 1.01, 76B St Georges Crescent , Drummoyne , NSW , 2047
Lot/DP	Lot 2 DP 11056
NCC Class*	2
Type	New Home

Plans

Main Plan	17.12.21
Prepared by	PBD Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	257.6	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	257.6	56
Garage		

Thermal performance

Heating	**Cooling**
22.4 MJ/m^2	**13.1** MJ/m^2

Accredited assessor

Name	Brian Teplicanec
Business name	Thermal Certificates
Email	brianteplicanec@gmail.com
Phone	0407 929 659
Accreditation No.	100588
Assessor Accrediting Organisation	ABSA
Declaration of interest	No potential conflicts of interest to declare

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=UZUZGvOyP.
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?

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

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

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*
bed 2	ALM-002-01 A	B2	1950	1900	Sliding	30	SW	None
bed 2	ALM-002-01 A	bed 2	2250	1000	Sliding	45	SE	Miniature Louvres
ensuite master	ALM-002-01 A	ensuite master	2250	1000	Sliding	45	SE	None
master	ALM-002-01 A	master	2250	1000	Sliding	45	SE	Miniature Louvres
master	ALM-002-01 A	master	2700	1950	Sliding	45	NE	None
kit/liv	ALM-002-01 A	Kit	2250	1000	Other	00	SE	Miniature Louvres
kit/liv	ALM-002-01 A	Living	2700	7850	Sliding	45	NE	None
kit/liv	ALM-002-01 A	Living	2250	1000	Sliding	45	NW	Miniature Louvres
kit/liv	ALM-002-01 A	living	2250	1000	Sliding	45	NW	Miniature Louvres
family	ALM-001-01 A	family	1950	1080	Awning	90	NE	None
family	ALM-002-01 A	family	2250	1000	Sliding	45	NW	Miniature Louvres
bed 3	ALM-002-01 A	Bed 3	1950	3650	Sliding	45	SW	None
ensuite b3	ALM-001-01 A	ensuite b3	1950	1900	Awning	90	SW	None

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	

* Refer to glossary.

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
hall	2400	1900	100	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-002	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-003	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
bed 2	EW-002	2700	3050	SW	800	Yes
bed 2	EW-002	2700	4350	SE		No
ensuite master	EW-002	2700	5600	SE		No
master	EW-002	2700	4950	SE		No
master	EW-002	2700	1950	NE	4800	Yes
wir his	EW-003	2700	2200	S	1450	Yes
pantry	EW-003	2700	2750	SE	1450	Yes
kit/liv	EW-003	2700	7300	SE	1450	Yes
kit/liv	EW-003	2700	8800	NE	3450	Yes
kit/liv	EW-003	2700	11000	NW	1350	Yes
cellar	EW-003	2700	1550	NW	1350	Yes
family	EW-001	2700	1080	NE	2500	Yes
family	EW-001	2700	4250	NW		No
laundry	EW-001	2700	3150	NW		No
bed 3	EW-001	2700	3950	NW		No
bed 3	EW-001	2700	3600	SW	800	Yes
ensuite b3	EW-001	2700	2450	SW	800	Yes
ensuite b3	EW-003	2700	600	SE	3050	Yes
hall	EW-001	2700	2500	NW	3350	Yes

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	208.98	
IW-002	Plasterboard/Concrete wall	32.94	
IW-003	Glass	11.88	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
bed 2/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	18.90			Carpet 10 + felt underlay 10
ensuite master/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	15.40			Ceramic tile
master/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	26.80			Carpet 10 + felt underlay 10
wir his/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	6.60			Carpet 10 + felt underlay 10
pantry/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	8.90			Ceramic tile
kit/liv/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	79.70			Ceramic tile
cellar/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	4.60			Ceramic tile
family/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	17.20			Ceramic tile
laundry/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	6.10			Ceramic tile
bed 3/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	14.20			Carpet 10 + felt underlay 10
ensuite b3/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	4.10			Ceramic tile
ensuite b2/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	5.10			Ceramic tile
wir hers/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	11.50			Carpet 10 + felt underlay 10
powder/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	5.00			Ceramic tile
hall/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	33.50			Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/bed 2	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/ensuite master	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/master	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/wir his	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/pantry	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/kit/liv	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/cellar	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/family	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/laundry	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/bed 3	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/ensuite b3	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/ensuite b2	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/wir hers	Concrete Slab 200 mm: carpet/bare + airgap		No
Neighbour/powder	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No
Neighbour/hall	Concrete Slab 200 mm: ceramic tiles/bare + airgap		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
No Data Available				

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
No Data Available			

* Refer to glossary.

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.

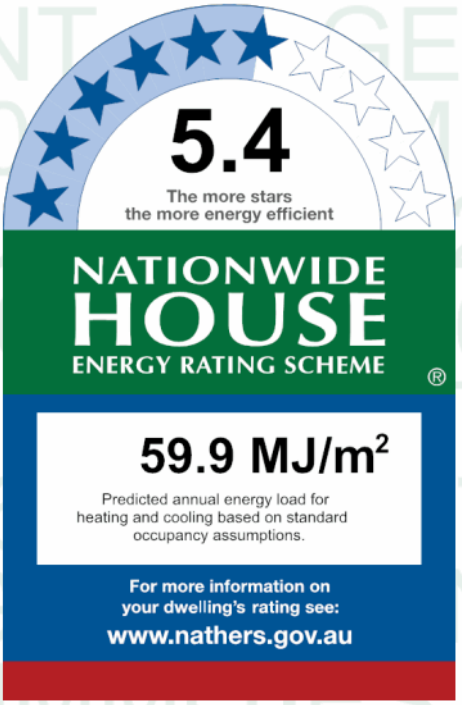
Not all assumptions that may have been made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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. 0006980635

Generated on 18 Jan 2022 using AccuRate Sustainability V2.4.3.21



Property

Address	Unit 2.01, 76B St Georges Crescent , Drummoyne , NSW , 2047
Lot/DP	Lot 2 DP 11056
NCC Class*	2
Type	New Home

Plans

Main Plan	17.12.21
Prepared by	PBD Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	257.6	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	257.6	56
Garage		

Thermal performance

Heating	Cooling
43.5 MJ/m^2	16.3 MJ/m^2

Accredited assessor

Name	Brian Teplicanec
Business name	Thermal Certificates
Email	brianteplicanec@gmail.com
Phone	0407 929 659
Accreditation No.	100588

Assessor Accrediting Organisation

ABSA

Declaration of interest No potential conflicts of interest to declare

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

National Construction Code (NCC) requirements

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

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

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

* Refer to glossary.

Certificate check

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

Genuine certificate

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

Ceiling penetrations*

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

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

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

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

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*
bed 2	ALM-002-01 A	bed 2	1950	1900	Sliding	30	SW	Miniature Louvres
bed 2	ALM-002-01 A	bed 2	2250	1000	Sliding	45	SE	Miniature Louvres
ensuite master	ALM-002-01 A	ensuite master	2250	1000	Sliding	45	SE	Miniature Louvres
master	ALM-002-01 A	master	2250	1000	Sliding	45	SE	Miniature Louvres
master	ALM-002-01 A	master	2700	1950	Sliding	45	NE	None
kit/liv	ALM-002-01 A	Kit	1850	1000	Other	00	SE	None
kit/liv	ALM-002-01 A	Living	2700	7850	Sliding	45	NE	None
kit/liv	ALM-002-01 A	Living	2250	1000	Sliding	45	NW	Miniature Louvres
kit/liv	ALM-002-01 A	living	2250	1000	Sliding	45	NW	Miniature Louvres
family	ALM-001-01 A	family	1950	1080	Awning	90	NE	None
family	ALM-002-01 A	family	2250	1000	Sliding	45	NW	Miniature Louvres
bed 3	ALM-002-01 A	bed 3	2250	1000	Sliding	45	NW	Miniature Louvres
bed 3	ALM-002-01 A	Bed 3	1950	3650	Sliding	45	SW	None
ensuite b3	ALM-001-01 A	ensuite b3	1950	1900	Awning	90	SW	None

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	

* Refer to glossary.

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
hall	2400	1900	100	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-002	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No
EW-003	Concrete wall/Plasterboard	30	Light	Glass fibre batt: R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
bed 2	EW-002	2700	3050	SW	800	Yes
bed 2	EW-002	2700	4350	SE		No
ensuite master	EW-002	2700	5600	SE		No
master	EW-002	2700	4950	SE		No
master	EW-002	2700	1950	NE	4800	Yes
wir his	EW-003	2700	2200	S	1450	Yes
pantry	EW-003	2700	2750	SE	1450	Yes
kit/liv	EW-003	2700	7300	SE	1450	Yes
kit/liv	EW-003	2700	8800	NE	3450	Yes
kit/liv	EW-003	2700	11000	NW	1350	Yes
cellar	EW-003	2700	1550	NW	1350	Yes
family	EW-001	2700	1080	NE	2500	Yes
family	EW-001	2700	4250	NW		No
laundry	EW-001	2700	3150	NW		No
bed 3	EW-001	2700	3950	NW		No
bed 3	EW-001	2700	3600	SW	800	Yes
ensuite b3	EW-001	2700	2450	SW	800	Yes
ensuite b3	EW-003	2700	600	SE	3050	Yes
hall	EW-001	2700	2500	NW	3350	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	208.98	
IW-002	Plasterboard/Concrete wall	32.94	
IW-003	Glass	11.88	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
bed 2/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	18.90			Carpet 10 + felt underlay 10
ensuite master/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	15.40			Ceramic tile
master/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	26.80			Carpet 10 + felt underlay 10
wir his/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	6.60			Carpet 10 + felt underlay 10
pantry/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	8.90			Ceramic tile
kit/liv/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	79.70			Ceramic tile
cellar/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	4.60			Ceramic tile
family/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	17.20			Ceramic tile
laundry/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	6.10			Ceramic tile
bed 3/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	14.20			Carpet 10 + felt underlay 10
ensuite b3/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	4.10			Ceramic tile
ensuite b2/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	5.10			Ceramic tile
wir hers/Neighbour	Concrete Slab 200 mm: carpet/bare + airgap	11.50			Carpet 10 + felt underlay 10
powder/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	5.00			Ceramic tile
hall/Neighbour	Concrete Slab 200 mm: ceramic tiles/bare + airgap	33.50			Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
No Data Available				

* Refer to glossary.

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete slab roof 200mm + R2.0 stud ceiling - LIGHT	R2.0	30	Light

Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
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).