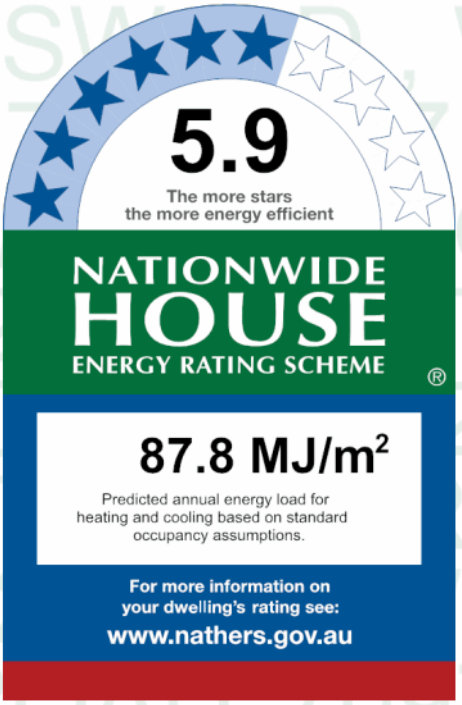
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006709737

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Proposed Road , WERRINGTON , NSW , 2747
Lot/DP	1504/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	138.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	184.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
46.3 MJ/m^2	41.5 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	
ABSA	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

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National Construction Code (NCC) requirements

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.

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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?

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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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Media/Entry	ALM-001-01 A	n/a	1800	1800	n/a	30	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1200	800	n/a	10	N	No
Bedroom 4	ALM-002-01 A	n/a	1200	1600	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1800	600	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	1800	n/a	45	N	No
WIR	ALM-002-01 A	n/a	600	1800	n/a	00	E	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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	
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No Data Available					

Roof window *schedule*

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

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:9W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:10W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Laundry	EW-1	2550	3545	W	600	NO
Media/Entry	EW-1	2550	700	W	50	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	1850	N	1550	YES
Media/Entry	EW-1	2550	1500	W	1900	YES
Media/Entry	EW-1	2550	3050	N	50	NO
Media/Entry	EW-1	2550	950	E	50	YES
Media/Entry	EW-1	2550	600	N	50	YES
Media/Entry	EW-1	2550	2245	E	50	NO
Garage	EW-2	2550	5545	W	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	3645	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-1	900	3945	W	0	NO
Bedroom 3	EW-4	1500	3945	W	600	NO
Bedroom 4	EW-1	900	3245	W	0	NO
Bedroom 4	EW-5	1500	3245	W	600	NO
Bedroom 4	EW-1	900	3845	N	0	NO
Bedroom 4	EW-6	1500	3845	N	600	NO
Bedroom 1	EW-3	900	1850	N	0	NO
Bedroom 1	EW-7	1500	1850	N	600	NO
Bedroom 1	EW-1	2400	1995	N	600	NO
Bedroom 1	EW-1	2400	2200	W	600	YES
WIR	EW-1	900	1045	N	0	NO
WIR	EW-8	1500	1045	N	600	NO
WIR	EW-1	900	950	E	0	YES
WIR	EW-9	1500	950	E	1550	YES
WIR	EW-1	2400	600	N	1550	YES
WIR	EW-3	2400	2245	E	950	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	900	1690	N	0	YES
Ensuite	EW-10	1500	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	14.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	9.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	2.70	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	4.50		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1	0.85	Dark

* 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).

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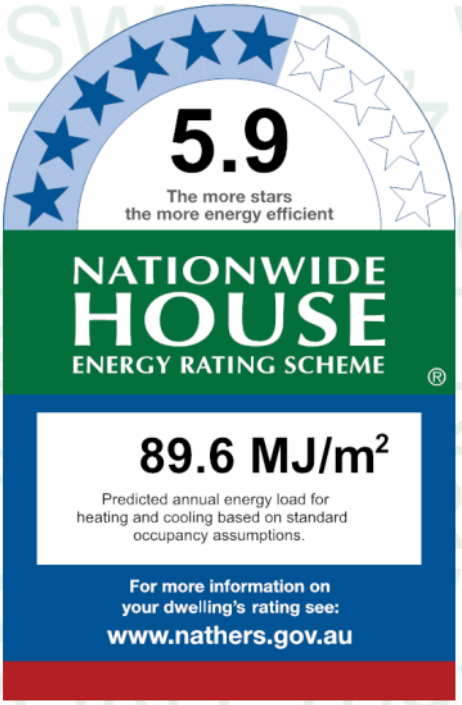

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Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
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ABSA	
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ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

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Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	45	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1500	2400	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1400	3000	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	W	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Media/Entry	EW-1	2550	700	W	400	YES
Media/Entry	EW-1	2550	1850	N	2150	YES
Media/Entry	EW-1	2550	1750	W	2250	YES
Media/Entry	EW-1	2550	3650	N	400	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	3445	E	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	1945	E	600	NO
Bedroom	EW-3	900	1700	E	0	NO
Bedroom	EW-4	1500	1700	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-5	1500	3945	W	50	NO
Bedroom 4	EW-6	1500	3245	W	50	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-7	2100	3845	N	600	NO
Bedroom 1	EW-1	2400	3945	N	600	NO
Bedroom 1	EW-1	2400	2450	W	600	YES
WIR	EW-1	2400	1545	N	600	NO
WIR	EW-1	2400	3445	E	600	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-8	2100	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Shaft liner party wall with plaster		30.00	Bulk Insulation both sides of shaft liner R2

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.

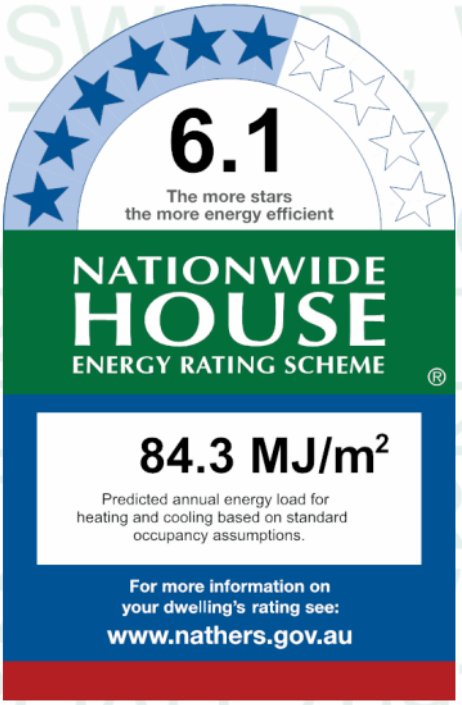
Glossary

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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006709752

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Proposed Road , WERRINGTON , NSW , 2747
Lot/DP	1506/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	141.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	187.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
51.3 MJ/m^2	33.0 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	
ABSA	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=NZARHQXae.
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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	60	N	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-002-01 A	n/a	2100	1800	n/a	45	N	No
Bedroom 1	ALM-002-01 A	n/a	400	600	n/a	00	E	No
Bedroom 1	ALM-002-01 A	n/a	400	1500	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1500	1000	n/a	10	N	No
WIR	ALM-002-01 A	n/a	1500	500	n/a	00	N	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	W	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:5	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:6	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:9W2:8	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:10W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:12W2:6	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3600	W	3600	YES
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	4495	W	50	NO
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Media/Entry	EW-1	2550	3445	W	50	NO
Media/Entry	EW-1	2550	3650	N	50	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	1750	E	2000	YES
Media/Entry	EW-1	2550	1850	N	1800	YES
Media/Entry	EW-1	2550	700	E	5650	YES
Garage	EW-2	2550	5545	N	1300	YES
Bedroom	EW-3	900	1700	W	0	NO
Bedroom	EW-4	1500	1700	W	600	NO
Bedroom	EW-1	2400	1945	W	600	NO
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom 3	EW-5	1500	3945	E	50	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-6	2100	3845	N	1800	NO
Bedroom 4	EW-7	1500	3245	E	50	NO
Bedroom 1	EW-1	2400	2450	E	5600	YES
Bedroom 1	EW-1	300	3945	N	0	NO
Bedroom 1	EW-8	2100	3945	N	600	NO
WIR	EW-1	2400	2295	W	600	NO
WIR	EW-3	2400	1150	W	600	NO
WIR	EW-1	300	1545	N	0	NO
WIR	EW-9	2100	1545	N	600	NO
Bath	EW-1	2400	2540	W	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-10	2100	1690	N	1800	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Shaft liner party wall with plaster		30.00	Bulk Insulation both sides of shaft liner R2

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.

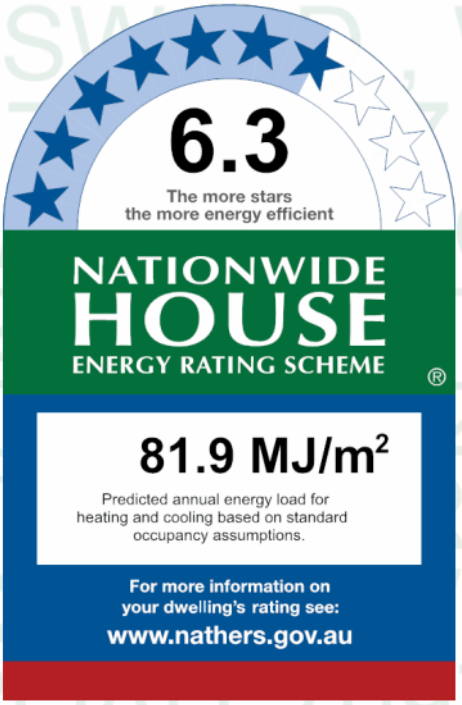
Glossary

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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006709760

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Proposed Road , WERRINGTON , NSW , 2747
Lot/DP	1507/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	130.0	Suburban
Unconditioned*	43.0	**NatHERS climate zone**
Total	173.0	28
Garage	31.0	

Thermal performance

Heating	Cooling
46.4 MJ/m^2	35.5 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=MSmtOPcdF.
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

R2.5 to internal garage walls

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	1800	n/a	45	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2400	n/a	45	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	600	2400	n/a	00	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1200	1200	n/a	45	E	No
Laundry	ALM-001-01 A	n/a	1800	600	n/a	60	N	No
Laundry	ALM-002-01 A	n/a	1800	1200	n/a	00	N	No
Laundry	ALM-002-01 A	n/a	2100	1600	n/a	45	E	No
Study/Entry	ALM-002-01 A	n/a	2100	600	n/a	00	N	No
Study/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom 2	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	1000	1800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	600	1800	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1200	1200	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	E	No
Bath	ALM-002-01 A	n/a	1000	1500	n/a	45	S	No
Ensuite	ALM-001-01 A	n/a	900	600	n/a	90	E	No
Guest/Media	ALM-002-01 A	n/a	600	1800	n/a	45	W	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

* Refer to glossary.

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:7W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-11	Fibro Cavity Panel Direct FixZ:13W2:4	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3000	S	50	YES
Kit/Meals/Loung	EW-1	2550	3590	W	3200	NO
Kit/Meals/Loung	EW-1	2550	5495	E	50	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Laundry	EW-1	2550	2345	N	50	NO
Laundry	EW-1	2550	2295	E	50	NO
Study/Entry	EW-1	2550	3640	N	1600	NO
Garage	EW-2	2550	5595	W	600	NO
Garage	EW-2	2550	5595	E	600	YES
Garage	EW-2	2550	5550	S	600	NO
Bedroom 2	EW-3	2400	4750	S	600	NO
Bedroom 2	EW-3	2400	2145	W	600	YES
Bedroom 2	EW-4	1500	4090	N	5850	NO
Bedroom 2	EW-3	2400	500	E	4400	YES
Bedroom 3	EW-1	900	3050	S	0	YES
Bedroom 3	EW-5	1500	3050	S	600	YES
Bedroom 3	EW-1	900	3000	W	0	NO
Bedroom 3	EW-6	1500	3000	W	600	NO
Bedroom 3	EW-1	900	2000	N	0	YES
Bedroom 3	EW-7	1500	2000	N	600	YES
Bedroom 4	EW-1	600	3145	W	0	YES
Bedroom 4	EW-8	1800	3145	W	600	YES
Bedroom 4	EW-1	600	3645	N	0	NO
Bedroom 4	EW-9	1800	3645	N	600	NO
Bedroom 1	EW-3	2400	2495	N	2050	NO
Bedroom 1	EW-1	2400	2350	N	600	NO
Bedroom 1	EW-1	2400	3345	E	600	NO
WIR(Large)	EW-10	1500	2545	N	3950	NO
WIR(Large)	EW-1	2400	1490	E	600	NO
Bath	EW-3	2400	1890	S	600	YES
Ensuite	EW-1	2400	2945	E	600	NO
Ensuite	EW-1	2400	1895	S	600	NO
Upper Stair	EW-1	600	1090	N	0	NO
Upper Stair	EW-11	1800	1090	N	2050	NO
Guest/Media	EW-1	2550	1145	W	3200	YES
Guest/Media	EW-1	2550	1050	S	10950	YES
Guest/Media	EW-1	2550	3050	W	50	NO
Guest/Media	EW-1	2550	3595	N	50	NO

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		26.00	Bulk Insulation, No Air Gap R2.5
IW-2 - Cavity wall, direct fix plasterboard, single gap		124.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	34.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	2.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Study/Entry	Waffle pod slab 225 mm 100mm	12.70	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.80	None	Waffle Pod 225mm	Bare
Bedroom 2/Kit/Meals/Loung	Timber Above Plasterboard 19mm	11.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Garage	Timber Above Plasterboard 19mm	2.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	1.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Guest/Media	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Suspended Timber Floor 19mm	9.00	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Guest/Media	Timber Above Plasterboard 19mm	10.90		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/PR	Timber Above Plasterboard 19mm	1.50		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Laundry	Timber Above Plasterboard 19mm	5.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Study/Entry	Timber Above Plasterboard 19mm	5.00		No Insulation	Carpet+Rubber Underlay 18mm
WIR(Large)/Kit/Meals/Loung	Timber Above Plasterboard 19mm	3.40		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	6.00		No Insulation	Ceramic Tiles 8mm
Bath/PR	Timber Above Plasterboard 19mm	1.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Kit/Meals/Loung	Timber Above Plasterboard 19mm	5.40		No Insulation	Ceramic Tiles 8mm
Upper Stair/Kit/Meals/Loung	Timber Above Plasterboard 19mm	4.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Study/Entry	Timber Above Plasterboard 19mm	7.50		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Guest/Media	Timber Above Plasterboard 19mm	1.10		No Insulation	Carpet+Rubber Underlay 18mm
Guest/Media	Waffle pod slab 225 mm 100mm	12.80	None	Waffle Pod 225mm	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Timber Above Plasterboard	No Insulation	No
Laundry	Timber Above Plasterboard	No Insulation	No
Study/Entry	Timber Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Plasterboard	No insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR(Large)	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Stair	Plasterboard	Bulk Insulation R4	No
Guest/Media	Timber Above Plasterboard	No Insulation	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
PR	1	Exhaust Fans	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* Refer to glossary.

Explanatory notes

About this report

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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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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).

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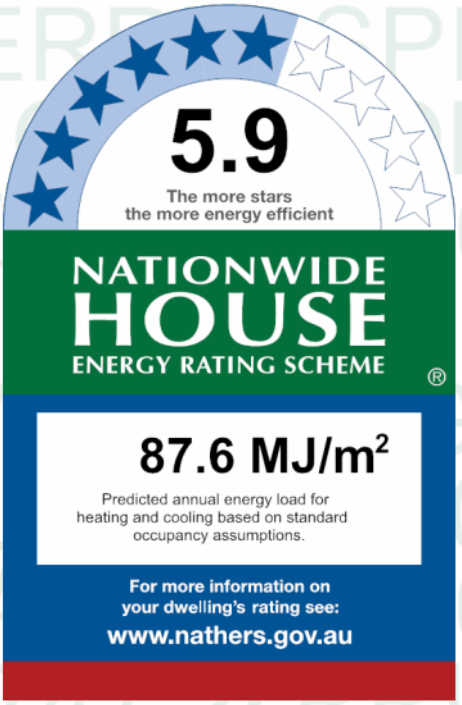
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710453

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1511/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	138.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	184.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
46.0	**41.6**
MJ/m^2	MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=ZiDURFTuM.
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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Media/Entry	ALM-001-01 A	n/a	1800	1800	n/a	30	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1200	800	n/a	10	N	No
Bedroom 4	ALM-002-01 A	n/a	1200	1600	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1800	600	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	1800	n/a	45	N	No
WIR	ALM-002-01 A	n/a	600	1800	n/a	00	E	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:9W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:10W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Laundry	EW-1	2550	3545	W	600	NO
Media/Entry	EW-1	2550	700	W	50	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	1850	N	1550	YES
Media/Entry	EW-1	2550	1500	W	1900	YES
Media/Entry	EW-1	2550	3050	N	50	NO
Media/Entry	EW-1	2550	950	E	50	YES
Media/Entry	EW-1	2550	600	N	50	YES
Media/Entry	EW-1	2550	2245	E	50	NO
Garage	EW-2	2550	5545	W	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	3645	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-1	900	3945	W	0	NO
Bedroom 3	EW-4	1500	3945	W	600	NO
Bedroom 4	EW-1	900	3245	W	0	NO
Bedroom 4	EW-5	1500	3245	W	600	NO
Bedroom 4	EW-1	900	3845	N	0	NO
Bedroom 4	EW-6	1500	3845	N	600	NO
Bedroom 1	EW-3	900	1850	N	0	NO
Bedroom 1	EW-7	1500	1850	N	600	NO
Bedroom 1	EW-1	2400	1995	N	600	NO
Bedroom 1	EW-1	2400	2200	W	600	YES
WIR	EW-1	900	1045	N	0	NO
WIR	EW-8	1500	1045	N	600	NO
WIR	EW-1	900	950	E	0	YES
WIR	EW-9	1500	950	E	1550	YES
WIR	EW-1	2400	600	N	1550	YES
WIR	EW-3	2400	2245	E	950	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	900	1690	N	0	YES
Ensuite	EW-10	1500	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	14.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	9.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	2.70	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	4.50		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No

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Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1	0.85	Dark

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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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710461

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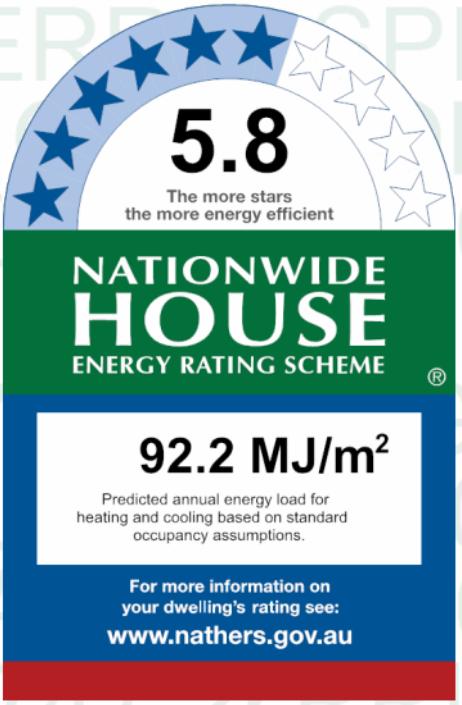

Property

Address	Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1512/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	141.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	187.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
51.9	**40.3**
MJ/m^2	MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

About the rating

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

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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.

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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?

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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	45	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1500	2400	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1400	3000	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	W	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Laundry	EW-1	2550	3545	W	600	NO
Media/Entry	EW-1	2550	700	W	400	YES
Media/Entry	EW-1	2550	1850	N	2150	YES
Media/Entry	EW-1	2550	1750	W	2250	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	3650	N	400	NO
Media/Entry	EW-1	2550	3445	E	50	NO
Garage	EW-2	2550	5545	W	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	1945	E	600	NO
Bedroom	EW-3	900	1700	E	0	NO
Bedroom	EW-4	1500	1700	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-5	1500	3945	W	50	NO
Bedroom 4	EW-6	1500	3245	W	50	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-7	2100	3845	N	600	NO
Bedroom 1	EW-1	2400	3945	N	600	NO
Bedroom 1	EW-1	2400	2450	W	600	YES
WIR	EW-1	2400	1545	N	600	NO
WIR	EW-1	2400	3445	E	600	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-8	2100	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Brick, plaster on studs		6.00	Bulk Insulation both sides of shaft liner R2.5

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.
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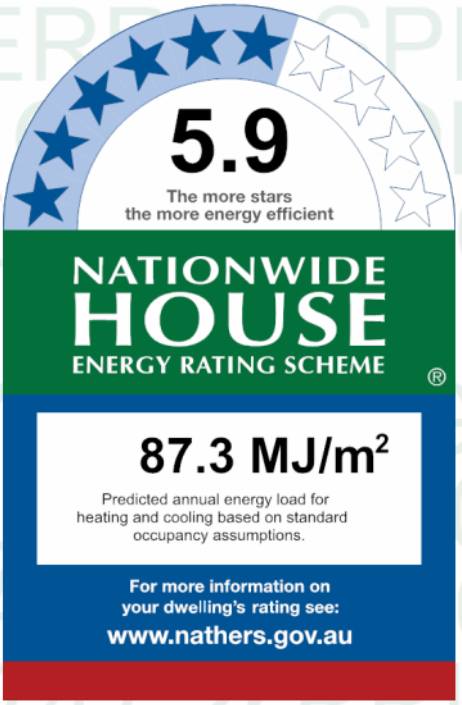
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710479

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1513/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	141.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	187.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
54.0 MJ/m^2	**33.2** MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

About the rating

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

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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?

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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.

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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".

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

Additional notes

R2.5 to internal walls of garage

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Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
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ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	60	N	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-002-01 A	n/a	2100	1800	n/a	45	N	No
Bedroom 1	ALM-002-01 A	n/a	400	600	n/a	00	E	No
Bedroom 1	ALM-002-01 A	n/a	400	1500	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1500	1000	n/a	10	N	No
WIR	ALM-002-01 A	n/a	1500	500	n/a	00	N	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	W	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Brick Veneer	0.50	Medium	No insulation	No
EW-4	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:6W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:5	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:8W2:6	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:9W2:8	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:10W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-11	Fibro Cavity Panel Direct FixZ:12W2:6	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3600	W	3600	YES
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	4495	W	50	NO
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	3545	E	600	NO
Laundry	EW-1	2550	1595	S	600	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	3445	W	50	NO
Media/Entry	EW-1	2550	3650	N	50	NO
Media/Entry	EW-1	2550	1750	E	2000	YES
Media/Entry	EW-1	2550	1850	N	1800	YES
Media/Entry	EW-1	2550	700	E	5650	YES
Garage	EW-2	2550	5545	N	1300	YES
Garage	EW-3	2550	5545	E	75	NO
Bedroom	EW-4	900	1700	W	0	NO
Bedroom	EW-5	1500	1700	W	600	NO
Bedroom	EW-1	2400	1945	W	600	NO
Bedroom	EW-4	2400	3295	S	600	NO
Bedroom 3	EW-6	1500	3945	E	50	NO
Bedroom 3	EW-4	2400	3245	S	600	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-7	2100	3845	N	1800	NO
Bedroom 4	EW-8	1500	3245	E	50	NO
Bedroom 1	EW-1	2400	2450	E	5600	YES
Bedroom 1	EW-1	300	3945	N	0	NO
Bedroom 1	EW-9	2100	3945	N	600	NO
WIR	EW-1	2400	2295	W	600	NO
WIR	EW-4	2400	1150	W	600	NO
WIR	EW-1	300	1545	N	0	NO
WIR	EW-10	2100	1545	N	600	NO
Bath	EW-1	2400	2540	W	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-11	2100	1690	N	1800	YES
Upper Sitting	EW-4	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Brick, plaster on studs		6.00	Bulk Insulation both sides of shaft liner R2.5

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.

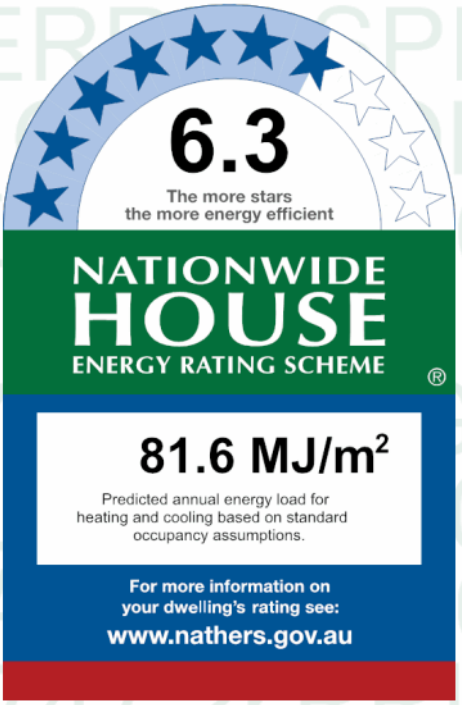
Glossary

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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710487

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1514/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	130.0	Suburban
Unconditioned*	43.0	**NatHERS climate zone**
Total	173.0	28
Garage	31.0	

Thermal performance

Heating	Cooling
45.8 MJ/m^2	35.7 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=lGRxQmhbH.
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

R2.5 to internal garage walls

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	1800	n/a	45	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2400	n/a	45	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	600	2400	n/a	00	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1200	1200	n/a	45	E	No
Laundry	ALM-001-01 A	n/a	1800	600	n/a	60	N	No
Laundry	ALM-002-01 A	n/a	1800	1200	n/a	00	N	No
Laundry	ALM-002-01 A	n/a	2100	1600	n/a	45	E	No
Study/Entry	ALM-002-01 A	n/a	2100	600	n/a	00	N	No
Study/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom 2	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	1000	1800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	600	1800	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1200	1200	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	E	No
Bath	ALM-002-01 A	n/a	1000	1500	n/a	45	S	No
Ensuite	ALM-001-01 A	n/a	900	600	n/a	90	E	No
Guest/Media	ALM-002-01 A	n/a	600	1800	n/a	45	W	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

* Refer to glossary.

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:7W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-11	Fibro Cavity Panel Direct FixZ:13W2:4	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3000	S	50	YES
Kit/Meals/Loung	EW-1	2550	3590	W	3200	NO
Kit/Meals/Loung	EW-1	2550	5495	E	50	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Laundry	EW-1	2550	2345	N	50	NO
Laundry	EW-1	2550	2295	E	50	NO
Study/Entry	EW-1	2550	3640	N	1600	NO
Garage	EW-2	2550	5595	W	600	NO
Garage	EW-2	2550	5595	E	600	YES
Garage	EW-2	2550	5550	S	600	NO
Bedroom 2	EW-3	2400	4750	S	600	NO
Bedroom 2	EW-3	2400	2145	W	600	YES
Bedroom 2	EW-4	1500	4090	N	5850	NO
Bedroom 2	EW-3	2400	500	E	4400	YES
Bedroom 3	EW-1	900	3050	S	0	YES
Bedroom 3	EW-5	1500	3050	S	600	YES
Bedroom 3	EW-1	900	3000	W	0	NO
Bedroom 3	EW-6	1500	3000	W	600	NO
Bedroom 3	EW-1	900	2000	N	0	YES
Bedroom 3	EW-7	1500	2000	N	600	YES
Bedroom 4	EW-1	600	3145	W	0	YES
Bedroom 4	EW-8	1800	3145	W	600	YES
Bedroom 4	EW-1	600	3645	N	0	NO
Bedroom 4	EW-9	1800	3645	N	600	NO
Bedroom 1	EW-3	2400	2495	N	2050	NO
Bedroom 1	EW-1	2400	2350	N	600	NO
Bedroom 1	EW-1	2400	3345	E	600	NO
WIR(Large)	EW-10	1500	2545	N	3950	NO
WIR(Large)	EW-1	2400	1490	E	600	NO
Bath	EW-3	2400	1890	S	600	YES
Ensuite	EW-1	2400	2945	E	600	NO
Ensuite	EW-1	2400	1895	S	600	NO
Upper Stair	EW-1	600	1090	N	0	NO
Upper Stair	EW-11	1800	1090	N	2050	NO
Guest/Media	EW-1	2550	1145	W	3200	YES
Guest/Media	EW-1	2550	1050	S	10950	YES
Guest/Media	EW-1	2550	3050	W	50	NO
Guest/Media	EW-1	2550	3595	N	50	NO

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		26.00	Bulk Insulation, No Air Gap R2.5
IW-2 - Cavity wall, direct fix plasterboard, single gap		124.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	34.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	2.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Study/Entry	Waffle pod slab 225 mm 100mm	12.70	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.80	None	Waffle Pod 225mm	Bare
Bedroom 2/Kit/Meals/Loung	Timber Above Plasterboard 19mm	11.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Garage	Timber Above Plasterboard 19mm	2.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	1.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Guest/Media	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Suspended Timber Floor 19mm	9.00	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Guest/Media	Timber Above Plasterboard 19mm	10.90		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/PR	Timber Above Plasterboard 19mm	1.50		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Laundry	Timber Above Plasterboard 19mm	5.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Study/Entry	Timber Above Plasterboard 19mm	5.00		No Insulation	Carpet+Rubber Underlay 18mm
WIR(Large)/Kit/Meals/Loung	Timber Above Plasterboard 19mm	3.40		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	6.00		No Insulation	Ceramic Tiles 8mm
Bath/PR	Timber Above Plasterboard 19mm	1.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Kit/Meals/Loung	Timber Above Plasterboard 19mm	5.40		No Insulation	Ceramic Tiles 8mm
Upper Stair/Kit/Meals/Loung	Timber Above Plasterboard 19mm	4.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Study/Entry	Timber Above Plasterboard 19mm	7.50		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Guest/Media	Timber Above Plasterboard 19mm	1.10		No Insulation	Carpet+Rubber Underlay 18mm
Guest/Media	Waffle pod slab 225 mm 100mm	12.80	None	Waffle Pod 225mm	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Timber Above Plasterboard	No Insulation	No
Laundry	Timber Above Plasterboard	No Insulation	No
Study/Entry	Timber Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Plasterboard	No insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR(Large)	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Stair	Plasterboard	Bulk Insulation R4	No
Guest/Media	Timber Above Plasterboard	No Insulation	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
PR	1	Exhaust Fans	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.

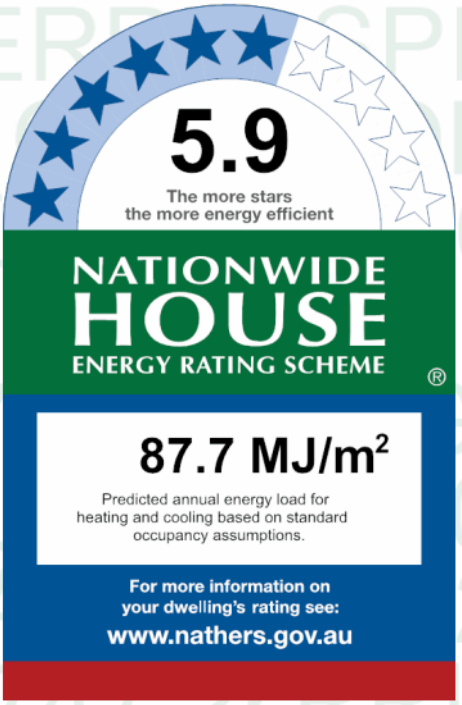
Glossary

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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710727

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1521/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	138.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	184.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
46.0 MJ/m^2	41.7 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	
ABSA	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=pANyoBvXN.
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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Media/Entry	ALM-001-01 A	n/a	1800	1800	n/a	30	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1200	800	n/a	10	N	No
Bedroom 4	ALM-002-01 A	n/a	1200	1600	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1800	600	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	1800	n/a	45	N	No
WIR	ALM-002-01 A	n/a	600	1800	n/a	00	E	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:9W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:10W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Laundry	EW-1	2550	3545	W	600	NO
Media/Entry	EW-1	2550	700	W	50	YES

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	1850	N	1550	YES
Media/Entry	EW-1	2550	1500	W	1900	YES
Media/Entry	EW-1	2550	3050	N	50	NO
Media/Entry	EW-1	2550	950	E	50	YES
Media/Entry	EW-1	2550	600	N	50	YES
Media/Entry	EW-1	2550	2245	E	50	NO
Garage	EW-2	2550	5545	W	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	3645	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-1	900	3945	W	0	NO
Bedroom 3	EW-4	1500	3945	W	600	NO
Bedroom 4	EW-1	900	3245	W	0	NO
Bedroom 4	EW-5	1500	3245	W	600	NO
Bedroom 4	EW-1	900	3845	N	0	NO
Bedroom 4	EW-6	1500	3845	N	600	NO
Bedroom 1	EW-3	900	1850	N	0	NO
Bedroom 1	EW-7	1500	1850	N	600	NO
Bedroom 1	EW-1	2400	1995	N	600	NO
Bedroom 1	EW-1	2400	2200	W	600	YES
WIR	EW-1	900	1045	N	0	NO
WIR	EW-8	1500	1045	N	600	NO
WIR	EW-1	900	950	E	0	YES
WIR	EW-9	1500	950	E	1550	YES
WIR	EW-1	2400	600	N	1550	YES
WIR	EW-3	2400	2245	E	950	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	900	1690	N	0	YES
Ensuite	EW-10	1500	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	14.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	9.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	2.70	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	4.50		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1	0.85	Dark

* Refer to glossary.

Explanatory notes

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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.
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).

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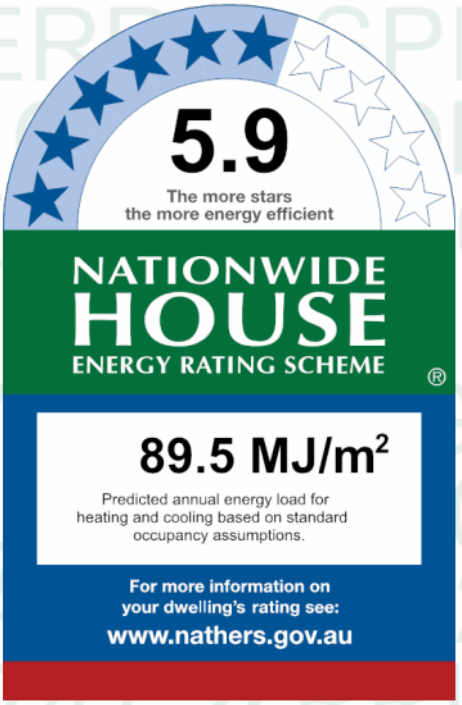
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710735

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1522/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	141.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	187.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
48.3 MJ/m^2	41.2 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	
ABSA	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=hzORBbZrC.
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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	E	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	45	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-001-01 A	n/a	1500	2400	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1400	3000	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	N	No
Bedroom 1	ALM-002-01 A	n/a	1400	1000	n/a	00	W	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	E	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:12W2:1	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
Kit/Meals/Loung	EW-1	2550	4495	E	50	NO
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	3600	E	3600	YES
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Media/Entry	EW-1	2550	700	W	400	YES
Media/Entry	EW-1	2550	1850	N	2150	YES
Media/Entry	EW-1	2550	1750	W	2250	YES
Media/Entry	EW-1	2550	3650	N	400	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	3445	E	50	NO
Garage	EW-2	2550	5545	N	50	YES
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom	EW-1	2400	1945	E	600	NO
Bedroom	EW-3	900	1700	E	0	NO
Bedroom	EW-4	1500	1700	E	600	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 3	EW-5	1500	3945	W	50	NO
Bedroom 4	EW-6	1500	3245	W	50	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-7	2100	3845	N	600	NO
Bedroom 1	EW-1	2400	3945	N	600	NO
Bedroom 1	EW-1	2400	2450	W	600	YES
WIR	EW-1	2400	1545	N	600	NO
WIR	EW-1	2400	3445	E	600	NO
Bath	EW-1	2400	2540	E	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-8	2100	1690	N	600	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Shaft liner party wall with plaster		30.00	Bulk Insulation both sides of shaft liner R2

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

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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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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.
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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.
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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.
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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).

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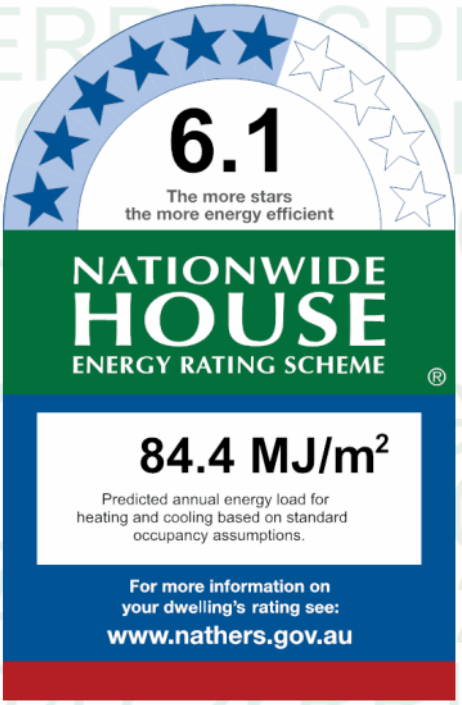
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710743

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1523/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	141.0	Suburban
Unconditioned*	46.0	**NatHERS climate zone**
Total	187.0	28
Garage	30.0	

Thermal performance

Heating	Cooling
50.6 MJ/m^2	33.8 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	
ABSA	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

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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.

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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?

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

R2.5 to internal walls of garage

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2700	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-001-01 A	n/a	1800	600	n/a	60	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1800	2400	n/a	34	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1000	1600	n/a	45	S	No
PR	ALM-001-01 A	n/a	900	600	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2100	1400	n/a	45	S	No
Media/Entry	ALM-001-01 A	n/a	1800	1500	n/a	60	N	No
Media/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 4	ALM-002-01 A	n/a	2100	1800	n/a	45	N	No
Bedroom 1	ALM-002-01 A	n/a	400	600	n/a	00	E	No
Bedroom 1	ALM-002-01 A	n/a	400	1500	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1500	1000	n/a	10	N	No
WIR	ALM-002-01 A	n/a	1500	500	n/a	00	N	No
Bath	ALM-001-01 A	n/a	1200	800	n/a	90	W	No
Ensuite	ALM-001-01 A	n/a	1200	800	n/a	90	N	No
Upper Sitting	ALM-002-01 A	n/a	600	2400	n/a	45	S	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								

* Refer to glossary.

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	N

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:8W2:5	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:8W2:6	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:9W2:8	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:10W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:12W2:6	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3600	W	3600	YES
Kit/Meals/Loung	EW-1	2550	2000	S	4200	YES
Kit/Meals/Loung	EW-1	2550	4495	W	50	NO
Kit/Meals/Loung	EW-1	2550	6345	S	600	NO
PR	EW-1	2550	1090	S	600	NO
Laundry	EW-1	2550	1595	S	600	NO
Media/Entry	EW-1	2550	3445	W	50	NO
Media/Entry	EW-1	2550	3650	N	50	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Media/Entry	EW-1	2550	1750	E	2000	YES
Media/Entry	EW-1	2550	1850	N	1800	YES
Media/Entry	EW-1	2550	700	E	5650	YES
Garage	EW-2	2550	5545	N	1300	YES
Bedroom	EW-3	900	1700	W	0	NO
Bedroom	EW-4	1500	1700	W	600	NO
Bedroom	EW-1	2400	1945	W	600	NO
Bedroom	EW-3	2400	3295	S	600	NO
Bedroom 3	EW-5	1500	3945	E	50	NO
Bedroom 3	EW-3	2400	3245	S	600	NO
Bedroom 4	EW-1	300	3845	N	0	NO
Bedroom 4	EW-6	2100	3845	N	1800	NO
Bedroom 4	EW-7	1500	3245	E	50	NO
Bedroom 1	EW-1	2400	2450	E	5600	YES
Bedroom 1	EW-1	300	3945	N	0	NO
Bedroom 1	EW-8	2100	3945	N	600	NO
WIR	EW-1	2400	2295	W	600	NO
WIR	EW-3	2400	1150	W	600	NO
WIR	EW-1	300	1545	N	0	NO
WIR	EW-9	2100	1545	N	600	NO
Bath	EW-1	2400	2540	W	600	NO
Ensuite	EW-1	300	1690	N	0	YES
Ensuite	EW-10	2100	1690	N	1800	YES
Upper Sitting	EW-3	2400	4490	S	600	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		117.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		28.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Shaft liner party wall with plaster		30.00	Bulk Insulation both sides of shaft liner R2

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	48.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	1.90	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (R-value)	Covering
Media/Entry	Waffle pod slab 225 mm 100mm	15.40	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.30	None	Waffle Pod 225mm	Bare
Bedroom /Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom	Suspended Timber Floor 19mm	3.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Laundry	Timber Above Plasterboard 19mm	2.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	7.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	12.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Media/Entry	Timber Above Plasterboard 19mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Timber Floor 19mm	3.10	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Media/Entry	Timber Above Plasterboard 19mm	5.10		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	8.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Garage	Timber Above Plasterboard 19mm	5.00		No Insulation	Ceramic Tiles 8mm
Upper Sitting/Kit/Meals/Loung	Timber Above Plasterboard 19mm	16.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Sitting/Garage	Timber Above Plasterboard 19mm	4.80		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Plasterboard	Bulk Insulation R4	No
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Plasterboard	Bulk Insulation R4	No
Laundry	Plasterboard	Bulk Insulation R4	No
Laundry	Timber Above Plasterboard	No Insulation	No
Media/Entry	Timber Above Plasterboard	No Insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Upper Sitting	Plasterboard	Bulk Insulation R4	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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.
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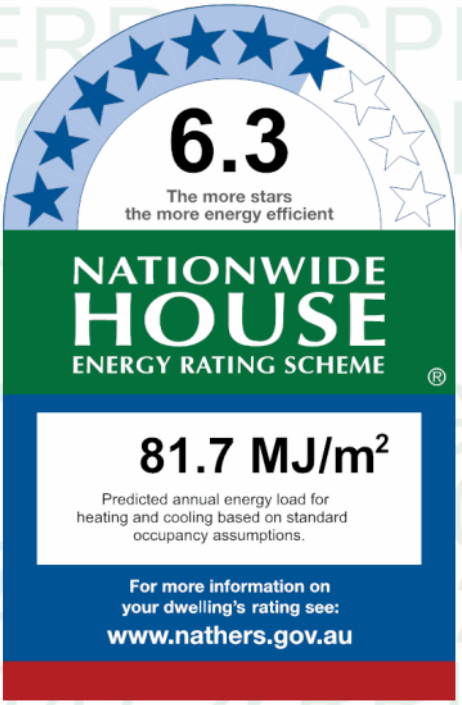
Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006710750

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747
Lot/DP	1524/.
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	9900051
Prepared by	AN

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	130.0	Suburban
Unconditioned*	43.0	**NatHERS climate zone**
Total	173.0	28
Garage	31.0	

Thermal performance

Heating	Cooling
45.8 MJ/m^2	35.9 MJ/m^2

Accredited assessor

Name	Christina Silman
Business name	Silman Building Pty Ltd
Email	chris@silmanbuilding.com.au
Phone	0417487743
Accreditation No.	20753
Assessor Accrediting Organisation	ABSA
Declaration of interest	Declaration completed: no conflicts

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* 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

R2.5 to internal garage walls

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	1800	n/a	45	S	No
Kit/Meals/Loung	ALM-002-01 A	n/a	2100	2400	n/a	45	W	No
Kit/Meals/Loung	ALM-002-01 A	n/a	600	2400	n/a	00	E	No
Kit/Meals/Loung	ALM-002-01 A	n/a	1200	1200	n/a	45	E	No
Laundry	ALM-001-01 A	n/a	1800	600	n/a	60	N	No
Laundry	ALM-002-01 A	n/a	1800	1200	n/a	00	N	No
Laundry	ALM-002-01 A	n/a	2100	1600	n/a	45	E	No
Study/Entry	ALM-002-01 A	n/a	2100	600	n/a	00	N	No
Study/Entry	TIM-001-01 W	n/a	2100	820	n/a	90	N	No
Bedroom 2	ALM-002-01 A	n/a	700	2100	n/a	10	S	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 3	ALM-001-01 A	n/a	1000	800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	1000	1800	n/a	10	W	No
Bedroom 4	ALM-002-01 A	n/a	600	1800	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	N	No
Bedroom 1	ALM-002-01 A	n/a	1200	1200	n/a	00	N	No
Bedroom 1	ALM-001-01 A	n/a	1200	600	n/a	10	E	No
Bath	ALM-002-01 A	n/a	1000	1500	n/a	45	S	No
Ensuite	ALM-001-01 A	n/a	900	600	n/a	90	E	No
Guest/Media	ALM-002-01 A	n/a	600	1800	n/a	45	W	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No
Guest/Media	ALM-001-01 A	n/a	1800	800	n/a	60	N	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

* Refer to glossary.

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2040	4800	90	W

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct FixZ:6W2:4	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct FixZ:7W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:7W2:2	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Fibro Cavity Panel Direct FixZ:7W2:3	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:8W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:8W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:10W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-11	Fibro Cavity Panel Direct FixZ:13W2:4	0.50	Medium	Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kit/Meals/Loung	EW-1	2550	3000	S	50	YES
Kit/Meals/Loung	EW-1	2550	3590	W	3200	NO
Kit/Meals/Loung	EW-1	2550	5495	E	50	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Laundry	EW-1	2550	2345	N	50	NO
Laundry	EW-1	2550	2295	E	50	NO
Study/Entry	EW-1	2550	3640	N	1600	NO
Garage	EW-2	2550	5595	W	600	NO
Garage	EW-2	2550	5595	E	600	YES
Garage	EW-2	2550	5550	S	600	NO
Bedroom 2	EW-3	2400	4750	S	600	NO
Bedroom 2	EW-3	2400	2145	W	600	YES
Bedroom 2	EW-4	1500	4090	N	5850	NO
Bedroom 2	EW-3	2400	500	E	4400	YES
Bedroom 3	EW-1	900	3050	S	0	YES
Bedroom 3	EW-5	1500	3050	S	600	YES
Bedroom 3	EW-1	900	3000	W	0	NO
Bedroom 3	EW-6	1500	3000	W	600	NO
Bedroom 3	EW-1	900	2000	N	0	YES
Bedroom 3	EW-7	1500	2000	N	600	YES
Bedroom 4	EW-1	600	3145	W	0	YES
Bedroom 4	EW-8	1800	3145	W	600	YES
Bedroom 4	EW-1	600	3645	N	0	NO
Bedroom 4	EW-9	1800	3645	N	600	NO
Bedroom 1	EW-3	2400	2495	N	2050	NO
Bedroom 1	EW-1	2400	2350	N	600	NO
Bedroom 1	EW-1	2400	3345	E	600	NO
WIR(Large)	EW-10	1500	2545	N	3950	NO
WIR(Large)	EW-1	2400	1490	E	600	NO
Bath	EW-3	2400	1890	S	600	YES
Ensuite	EW-1	2400	2945	E	600	NO
Ensuite	EW-1	2400	1895	S	600	NO
Upper Stair	EW-1	600	1090	N	0	NO
Upper Stair	EW-11	1800	1090	N	2050	NO
Guest/Media	EW-1	2550	1145	W	3200	YES
Guest/Media	EW-1	2550	1050	S	10950	YES
Guest/Media	EW-1	2550	3050	W	50	NO
Guest/Media	EW-1	2550	3595	N	50	NO

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		26.00	Bulk Insulation, No Air Gap R2.5
IW-2 - Cavity wall, direct fix plasterboard, single gap		124.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kit/Meals/Loung	Waffle pod slab 225 mm 100mm	34.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
PR	Waffle pod slab 225 mm 100mm	2.50	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Laundry	Waffle pod slab 225 mm 100mm	5.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Study/Entry	Waffle pod slab 225 mm 100mm	12.70	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Garage	Waffle pod slab 225 mm 100mm	30.80	None	Waffle Pod 225mm	Bare
Bedroom 2/Kit/Meals/Loung	Timber Above Plasterboard 19mm	11.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Garage	Timber Above Plasterboard 19mm	2.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kit/Meals/Loung	Timber Above Plasterboard 19mm	1.20		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Guest/Media	Timber Above Plasterboard 19mm	0.70		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Suspended Timber Floor 19mm	9.00	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Guest/Media	Timber Above Plasterboard 19mm	10.90		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Kit/Meals/Loung	Timber Above Plasterboard 19mm	2.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/PR	Timber Above Plasterboard 19mm	1.50		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Laundry	Timber Above Plasterboard 19mm	5.30		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Study/Entry	Timber Above Plasterboard 19mm	5.00		No Insulation	Carpet+Rubber Underlay 18mm
WIR(Large)/Kit/Meals/Loung	Timber Above Plasterboard 19mm	3.40		No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kit/Meals/Loung	Timber Above Plasterboard 19mm	6.00		No Insulation	Ceramic Tiles 8mm
Bath/PR	Timber Above Plasterboard 19mm	1.00		No Insulation	Ceramic Tiles 8mm
Ensuite/Kit/Meals/Loung	Timber Above Plasterboard 19mm	5.40		No Insulation	Ceramic Tiles 8mm
Upper Stair/Kit/Meals/Loung	Timber Above Plasterboard 19mm	4.10		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Study/Entry	Timber Above Plasterboard 19mm	7.50		No Insulation	Carpet+Rubber Underlay 18mm
Upper Stair/Guest/Media	Timber Above Plasterboard 19mm	1.10		No Insulation	Carpet+Rubber Underlay 18mm
Guest/Media	Waffle pod slab 225 mm 100mm	12.80	None	Waffle Pod 225mm	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kit/Meals/Loung	Timber Above Plasterboard	No Insulation	No
PR	Timber Above Plasterboard	No Insulation	No
Laundry	Timber Above Plasterboard	No Insulation	No
Study/Entry	Timber Above Plasterboard	No Insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Plasterboard	No insulation	No
Garage	Timber Above Plasterboard	No Insulation	No
Bedroom 2	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR(Large)	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Upper Stair	Plasterboard	Bulk Insulation R4	No
Guest/Media	Timber Above Plasterboard	No Insulation	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Kit/Meals/Loung	4	Downlights - LED	150	Sealed
PR	1	Exhaust Fans	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	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
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.85	Dark

* 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).

* Refer to glossary.