Nationwide House Energy Rating Scheme NatHERS Certificate No. 0008635435

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Property

Address Unit B, 2 Stephenson Street, Roselands, NSW

2196

Lot/DP 46/12431

NCC Class* 1A

Type **New Dwelling**

Plans

Main plan n/a Prepared by n/a

Construction and environment

Assessed floor area (m2)* Conditioned* 151.0 Suburban

Unconditioned* 5.0

Total 156.0

Garage

Exposure type

NatHERS climate zone

56



Accredited assessor

Name Zoran Cvetkovski **Business name** Sustainability-Z

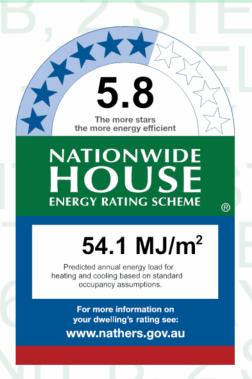
Email sustainability-z@outlook.com

Phone 0414273176 Accreditation No. DMN/13/1641

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration not completed



Thermal performance

Heating Cooling

28.3

 MJ/m^2

25.8

 MJ/m^2

About the rating

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

Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=VNXrQtXvZ.

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

National Construction Code (NCC) requirements

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

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

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



Certificate check

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

Genuine certificate

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

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

Windows

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

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

				_	
Rated	with	nrovisional	values	f∩r	downliahts.
Natou	VVILII	DIOVISIONAL	values	101	acwilliants.

Rated with AWS windows.

Ready wall 110mm with insulation and hebel external cladding is rated as concrete wall 110mm, externally

insulated with R2.5 insulation (it is assumed that the frame structure is timber).

Rated with lightweight internal walls/worst case scenario.

Rated with construction elements as requested in a separate e-mail.

Ceiling height on the Ground Floor is measured from the section.

Rated with wall colours as per the material schedule (solar absorptance is calculated in the BERS software

custom colours tool).

Window on the Dining area-GF is measured from the elevations (North elevation).

Rated with provisional opening percentage for the windows not clearly showing opening percentage.

Rated with ceiling fans (1200mm)/as shown on the plans.

All coffer ceiling verticals and walls against the roof-space, to be insulated, with the same insulation as the ceiling

insulation.

All downlights IC-F / IC-4 / (insulation covered/including the control gears) rated as per AS/NZS standard 60598

and IP (sealed) rated as per BS EN 60529:1992, European IEC 60509:1989.



(Where the roof is extended over an open area such as deck or carport): A barrier to be instaled within the roof

space to separate the space above the zoned part of the house and the space above the open veranda.

I have modeled the shading in accordance with NatHERS principles

Window and glazed door type and performance

Default* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow ib	Description	U-value*	31130	SHGC lower limit	SHGC upper limit	
	ALM-002-04 A					
ALM-002-04 A	Aluminium B SG Low	5.6	0.41	0.39	0.43	
	Solar Gain Low-E					

Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow ib	Description	U-value*	энвс	SHGC lower limit	SHGC upper limit	
	AWS-001-05 A 502/504					
AWS-001-05 A	Al Sliding Window SG	4.6	0.45	0.43	0.47	
	6.38CP					
	AWS-007-07 A 516 AI					
AWS-007-07 A	Awining Window SG	4.9	0.41	0.39	0.43	
	6.38CP					
	AWS-011-06 A 541/542					
AWS-011-06 A	Al Sliding Door SG	4.4	0.45	0.43	0.47	
	6.38CP					

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
KitchenGF	AWS-001-05 A	n/a	2100	913	n/a	45	NW	No
KitchenGF	AWS-001-05 A	n/a	1200	1100	n/a	45	SE	No
KitchenGF	AWS-007-07 A	n/a	500	2200	n/a	90	SW	No
KitchenGF	AWS-007-07 A	n/a	500	2200	n/a	90	SW	No
Liv/DinGF	AWS-001-05 A	n/a	2100	913	n/a	45	NW	No
Liv/DinGF	ALM-002-04 A	n/a	2610	5240	n/a	75	NW	No
Liv/DinGF	AWS-011-06 A	n/a	2510	5020	n/a	60	NE	No
G.BedGF	AWS-011-06 A	n/a	2100	3200	n/a	60	NE	No
G.BedGF	AWS-001-05 A	n/a	1200	1200	n/a	45	SE	No
Bath/G.BGF	AWS-001-05 A	n/a	1200	890	n/a	45	SE	No



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Main BedFF	AWS-001-05 A	n/a	2000	3800	n/a	10	N	No
Ens/M.BFF	AWS-001-05 A	n/a	1200	890	n/a	10	SE	No
Media/StFF	AWS-007-07 A	n/a	1500	2000	n/a	45	SE	No
Bed 2FF	AWS-001-05 A	n/a	1500	2000	n/a	10	N	No
Bed 3FF	AWS-001-05 A	n/a	1500	2000	n/a	10	NW	No
Bed 3FF	AWS-001-05 A	n/a	1500	2000	n/a	10	NE	No
BathFF	AWS-001-05 A	n/a	1200	890	n/a	10	SE	No

Roof window type and performance

Default* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow ib	Description	U-value*	энчс	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Custom* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Roof window schedule

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

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
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Location Skylight No. Skylight shaft length (mm) Area (m²) Orientation Skylight shaft Skylight Shaft length (m²) Orientation Skylight Skylight Skylight Skylight Skylight Shaft Control or Skylight Skyli

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Liv/DinGF	2192	910	90	NW

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up Concrete	0.27	Light	Bulk Insulation R2.5	No
EW-2	AAC cavity panel on battens	0.50	Medium	Bulk Insulation R2.5	No
EW-3	AAC cavity panel on battens	0.27	Light	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)
KitchenGF	EW-1	2700	1895	NW	6050	NO
KitchenGF	EW-1	2700	2200	SE	100	YES
KitchenGF	EW-1	2700	5300	SW	100	NO
Liv/DinGF	EW-1	2700	9795	NW	1300	NO
Liv/DinGF	EW-1	2700	5300	NE	100	NO
Liv/DinGF	EW-1	2700	3500	SE	100	YES
G.BedGF	EW-1	2700	3995	NE	300	YES
G.BedGF	EW-1	2700	4095	SE	300	NO
Bath/G.BGF	EW-1	2700	1895	SE	300	NO
Bath/G.BGF	EW-1	2700	2395	SW	300	NO
WCGF	EW-1	2700	1590	SW	300	YES
Main BedFF	EW-2	2700	4780	N	662	NO
Main BedFF	EW-2	2700	5595	SW	700	NO



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Ens/M.BFF	EW-3	2700	2095	SE	100	NO
Ens/M.BFF	EW-2	2700	2195	SW	700	NO
Media/StFF	EW-3	2700	7190	SE	100	NO
Bed 2FF	EW-2	2701	917	N	667	YES
Bed 2FF	EW-3	2700	2433	N	79	YES
Bed 2FF	EW-3	2700	200	NE	900	YES
Bed 3FF	EW-3	2700	3695	NW	100	YES
Bed 3FF	EW-3	2700	3895	NE	100	NO
BathFF	EW-3	2700	2195	NE	100	NO
BathFF	EW-3	2700	2395	SE	100	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		115.00	No insulation

Floor type

Construction				Covering
Concrete Slab on Ground	12.00 N	lone	No Insulation	60/40 Carpet 10mm/Ceramic
Concrete Slab on Ground 100mm	49.20 N	Vone	No Insulation	Carpet+Rubber Underlay 18mm
Concrete Slab on Ground 100mm	16.00 N	lone	No Insulation	Carpet+Rubber Underlay 18mm
Concrete Slab on Ground 100mm	4.40 N	lone	No Insulation	Ceramic Tiles 8mm
Concrete Slab on Ground 100mm	2.80 N	lone	No Insulation	Ceramic Tiles 8mm
Concrete Above Plasterboard 150mm	6.30		No Insulation	Carpet+Rubber Underlay 18mm
Concrete Above Plasterboard 150mm	8.10		No Insulation	Carpet+Rubber Underlay 18mm
Suspended Concrete Slab 150mm	9.50		Bulk Insulation in Contact with Floor R2.5	Carpet+Rubber Underlay 18mm
	Concrete Slab on Ground 100mm Concrete Above Plasterboard 150mm Concrete Above Plasterboard 150mm Suspended Concrete Slab	Construction (m²) v Concrete Slab on Ground 100mm Concrete Slab on Ground 49.20 N Concrete Slab on Ground 100mm Concrete Slab on Ground 100mm Concrete Slab on Ground 100mm Concrete Slab on Ground 2.80 N Concrete Above Plasterboard 150mm Concrete Above Plasterboard 150mm Suspended Concrete Slab 9.50	Concrete Slab on Ground 100mm Concrete Above Plasterboard 150mm Concrete Above Plasterboard 150mm Suspended Concrete Slab 9 50 Totally	Concrete Slab on Ground 100mm Concrete Above Plasterboard 150mm Concrete Above Plasterboard 150mm Concrete Above Plasterboard 150mm Suspended Concrete Slab 9.50 Totally Bulk Insulation in Contact with



Location	Construction	_	Sub-floor ventilation	Added insulation n(R-value)	Covering
Ens/M.B FF/KitchenGF	Concrete Above Plasterboard 19mm	4.40		No Insulation	Ceramic Tiles 8mm
Media/St FF/KitchenGF	Concrete Above Plasterboard 19mm	1.30		No Insulation	Carpet+Rubber Underlay 18mm
Media/St FF/Liv/DinGF	Concrete Above Plasterboard 19mm	14.00)	No Insulation	Carpet+Rubber Underlay 18mm
Bed 2FF/Liv/Din GF	Concrete Above Plasterboard 150mm	9.90		No Insulation	Carpet+Rubber Underlay 18mm
Bed 2FF	Suspended Concrete Slab 150mm	4.10	Totally Open	Bulk Insulation in Contact with Floor R2.5	Carpet+Rubber Underlay 18mm
Bed 3FF/Liv/Din GF	Concrete Above Plasterboard 150mm	11.20)	No Insulation	Carpet+Rubber Underlay 18mm
Bed 3FF	Suspended Concrete Slab 150mm	2.90	Totally Open	Bulk Insulation in Contact with Floor R2.5	Carpet+Rubber Underlay 18mm
BathFF/Liv/Din GF	Concrete Above Plasterboard 19mm	5.10		No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
KitchenGF	Concrete Above Plasterboard	No Insulation	No
Liv/DinGF	Concrete Above Plasterboard	No Insulation	No
G.BedGF	Concrete, Plasterboard	Bulk Insulation R5	No
Bath/G.BGF	Concrete, Plasterboard	Bulk Insulation R5	No
WCGF	Concrete, Plasterboard	Bulk Insulation R5	No
Main BedFF	Plasterboard	Bulk Insulation R5	No
Ens/M.BFF	Plasterboard	Bulk Insulation R5	No
Media/StFF	Plasterboard	Bulk Insulation R5	No
Bed 2FF	Plasterboard	Bulk Insulation R5	No
Bed 3FF	Plasterboard	Bulk Insulation R5	No
BathFF	Plasterboard	Bulk Insulation R5	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
KitchenGF	5	Downlights - LED	50	Sealed



Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
KitchenGF	1	Exhaust Fans	300	Sealed
Liv/DinGF	19	Downlights - LED	50	Sealed
G.BedGF	6	Downlights - LED	50	Sealed
Bath/G.BGF	1	Downlights - LED	50	Sealed
WCGF	1	Downlights - LED	50	Sealed
WCGF	1	Exhaust Fans	300	Sealed
Main BedFF	9	Downlights - LED	50	Sealed
Ens/M.BFF	1	Downlights - LED	50	Sealed
Media/StFF	6	Downlights - LED	50	Sealed
Bed 2FF	6	Downlights - LED	50	Sealed
Bed 3FF	5	Downlights - LED	50	Sealed
BathFF	2	Downlights - LED	50	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
Liv/DinGF	2	1200
G.BedGF	1	1200
Main BedFF	1	1200
Media/StFF	1	1200
Bed 2FF	1	1200
Bed 3FF	1	1200

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.33	Light



Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation af 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).
Vertical shading features	